

THE ROOM WITHOUT A VIEW by Dan Bruiger ©1999, rev. 2017

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Foreword

This is a philosophical novelette concerning a series of thought experiments in philosophy of mind and related issues. It is loosely inspired by Lewis Carroll's *Alice in Wonderland* and *Sophie's World* by Jostein Gaarder. Some of my non-fiction writings and other work can be found at www.leftfieldpress.com and www.thefoundandthemade.com. Have fun!

— Dan Bruiger

THE ROOM WITHOUT A VIEW

Chapter One: The Fortune Cookie

That day was Alisha Pelerin's fifteenth birthday. It had been a full and fun evening. She hadn't really wanted a party and didn't normally care for being dragged along to dinner with her parents and their friends. But this was a special occasion and she'd been able to invite a few of her own friends as well. She felt pleasantly tired and a little tipsy from her first taste of wine. She was about to shut off the light on the night table beside her, but instead reached for the fortune cookie that lay there, which she'd brought home from her favorite Chinese restaurant. This she turned over a few times in her fingers, remembering the evening, then carefully broke it open so as not to drop crumbs in the bed. Laying the two halves on the night table again, she held the little strip of paper to the light. 'You are not who you think,' read the cryptic message. An odd fortune, she thought—really no fortune at all. She set the paper on the table and turned off the light. *You are not who you think*. In the darkness she wondered what that could possibly mean. Her eyelids were half lowered as her body relaxed into a cozy feeling of contentment. Just as she was dozing off, Alisha noticed she had been staring at something that wasn't supposed to be there.

A small faint red light, round and blinking. Curiosity, and then alarm, brought her back to wakefulness. She threw off the covers to investigate, rising to approach the light in the corner of the room. It was difficult to judge distance or size in the dark, but it was plain to see there was something printed on an illuminated red disk. It flashed: *Exit*.

"Go ahead, push it," said a tinny high-pitched voice behind her, as though through a long tube. Heart suddenly racing and barely suppressing a scream, she wheeled around and was stopped short by what she saw. There, with legs dangling from the edge of the dresser at the far side of the room, sat a tiny transparent apparition, glowing faintly in the dark. He—or she or whatever—was no more than a foot tall and dressed in the most outrageous mixture of clothing from every epoch of history, and perhaps some from the future as well.

"Sorry, I didn't mean to startle you," said the voice. "Please excuse the intrusion. I deliberately turned myself *down* so as not to alarm you. Be assured I mean no harm. I wonder, do you suppose I might make myself a little larger now? It gives me such a complex to be this small." Without waiting for an answer, the apparition adjusted something on its belt and suddenly expanded to the size of a normal person—a male person—slipping off the dresser to stand in front of her. Well, an *almost*-person: she could see right through him, as he seemed to be made of flickering light! Anticipating her thought, as she approached to see whether it was possible to pass her hand through his luminous body, he raised a cautionary finger and took a step back against the dresser—indeed, half *into* it. He fiddled some more with knobs on his belt, stood away from the dresser, and the image began to become clearer and more solid looking.

Still dumbfounded, the only thing Alisha could manage to say was: "Either I'm dreaming or you must be some kind of hollow-gram."

"Hologram," he corrected. "*Either or, either or...* You people always forget the possibilities between," he muttered, completing his adjustments. "There, that's better. How do I look?"

"Well, more... real, I guess," she grunted, hoping to avoid the subject of his ridiculous wardrobe. "But who or what are you and how did you get into in my bedroom?"

"A very natural question, assuming it *is* your bedroom. Perhaps you *are* dreaming. After all, you could even be dreaming that you are dreaming that you are at home, asleep in your bed dreaming of a visit by yours truly in fact. In that case, mightn't you really be somewhere else entirely? Why not pinch yourself to find out?"

Defiantly, Alisha obliged. She was in no mood for these absurd convolutions. "All right, I will!" she proclaimed, not liking his flippant tone one bit, and hoping to put an end to this nonsense by waking herself up. "Ouch!" Pinching a little too hard, she felt annoyed with him for having added injury to insult.

"There. You see? You're quite awake, aren't you?"

"OK, so, what of it?" she quipped.

"Well, to answer your previous question..." He paused a moment. "On further examination, I should think that the question is rather: who are *you*? Since you've been kind enough to establish that this is not *your* dream, at least, we might just as well assume that this is not your bedroom either. At this point, in any case, hospitality dictates I should welcome you to *my* world. Well, I suppose it's technically Captain Pick-a-Card's—or perhaps it rightfully belongs to the screenwriters of Startrick."

"Don't you mean Star Trek?" she corrected. Best to humor him but stand her ground: "All right. So you're somebody from Star Trek—no episode I ever saw. I still want to know how you got into my room, and why."

"My dear, it was such a long journey—you must be tired and a little confused. Don't you rather want to know how *you* got *here*?"

Underneath her mounting exasperation Alisha was indeed beginning to feel confused. Her head seemed to spin. "This proves I must be dreaming," she said half to herself.

"Tell me," he persisted. "When's the last time you had a dream in which you reasoned with yourself about whether or not you were dreaming? Isn't that an awful lot like being awake?"

"I guess so," Alisha confessed, less sure of anything now. "Then how did I get here—wherever this is? It certainly seems like my room. But hold on, now," she exclaimed, recovering her composure. "Whether I'm dreaming is beside the point. You're just a character in a story, from an outdated TV show! And you don't seem very solid. Even in the story I bet you're just a hollowgram."

"Hologram," he corrected again. "Two long letter 'o's.'"

"Whatever!" she retorted.

"I'm afraid *everything* here is a hologram, my dear," he continued with a sigh. "That's life on the Holodeck for you! As unpalatable as it might seem, you must accept the fact that even you are a hologram, and not very solid yourself. I hope, at least, your surroundings are to your taste. I do want you to feel at home." Looking around, he added: "Not too bad a job, if I say so myself. Please do make yourself comfortable."

She decided to take another tack. “OK, let me get this right. You’re telling me that this just looks like my bedroom but is not. And that we are not on planet Earth but in the Holodeck of the Starship Enterprise. Is that it?”

“One moment, young lady—I never said where this holodeck is, nor am I permitted to for security reasons.”

“But Star Trek is just a story,” she interrupted, “made up by some Hollywood writers. They live in real houses with real bedrooms... on Earth. That’s where I am really—on good old Planet Earth, asleep in my house dreaming this. Dreaming you!” Then added softly: “But what a strange dream.”

“If you say so,” her companion carried on. “But you could be a more gracious guest, you know. Here you are in my world, where everything admittedly is, well, a touch sketchy to be sure, but which I’ve taken the greatest pains to insure at least resembles your native habitat enough to make you feel at home. And what is that habitat, anyway, but a dreamscape you are used to calling real? If you want to know the truth—which you humans rarely do—you are nothing but a character I made up for my own amusement. And that of my fellow crew members, of course,” he added hastily. “I should think you would at least show a little gratitude that you were given *some* kind of reality, even if it’s what you call fictional. At least I’ve created for you an existence that is, well... consistent, and pretty nicely detailed, if I do say so myself. You have food and shelter, people who care about you, friends at school. What more could a young hologram want? A lot of upkeep goes into this, you know,” he went on with a magnanimous sweep of the arm, “day in and day out, pixel by pixel, simply to provide you with a sense of continuity. Don’t you realize there are many other less fortunate *characters* who live very sketchy lives indeed? One day they’re in one reality and the next moment they’ve popped off to a totally different world? I feel pity for them and nothing but contempt for their thoughtless authors. Why, it must be hell, flitting around like that from one parallel universe to another. I confess my own existence is none too consistent at times. We’re not unionized, you know. You really ought to be more grateful for what you have. Don’t you realize...”

“Stop it! Just stop,” Alisha cut him off. “You’re beginning to sound like... a parent. And anyway this is crazy. I know this is a dream. I’m real and you’re in my dream, and that’s that! You can go on all you want about your stupid Hollowdeck and it won’t change anything! This dream is getting to be a nightmare and I don’t like it one bit. I wish you would just go away!”

Her strange companion gave her a sheepish look, at once reproachful and concerned, as though gauging whether he had perhaps gone too far. Then after a moment he said cheerfully, “Well, no need to have a tantrum about it. If your hypothesis is true, you can find out easily enough, can’t you? If it’s you dreaming me, then surely you can wake up and I’ll be gone.”

“That’s just what I’m going to do,” said Alisha, still in a huff. I will simply wake up and that will show you about my... hypotenuse, or whatever you called it! I will wake up and be myself again, in my cozy bed, and then I’ll get up and have breakfast with Mom and go to school and...” She was practically in tears.

“Oh, dear. There, there, my dear. Yes, of course, if you say so. I’m afraid our little game has upset you. It’s all right, really. Perhaps that’s enough for now. Better

take things in little steps. Let's call it a night and you can finally get some sleep or whatever." He seemed genuinely concerned. But Alisha stopped him.

"Wait a minute... You mean you're leaving? You can't do that!" she exclaimed.

"Just a moment ago you couldn't wait to be rid of me," he commented wryly.

"I still want to be rid of you! But it won't do for *you* to leave. Because then I won't be sure I *made* you disappear, and I won't be sure I made you up in the first place. First I have to wake up, and then you'll be back in your bottle or wherever you came from because you're only a figlet of my imagination..."

"Figment," he corrected. "But this is exactly what remains to be seen, isn't it? The question is: who has invented whom? How will we ever decide?" he complained with mock despair.

"I've had enough of your... your game, as you call it. What kind of game is this, anyway? It isn't exactly fun, you know."

"Another story, my dear," he said paternally. "Another dream, perhaps. At least we're agreed this is enough for now. And so I bid you a fond good night. Until we meet again, fair damsel," he said, hamming it up with a salaam, all the more absurd because of his vaguely oriental costume.

"Wait!" she stopped him. "What if I don't want to meet again? And you never did tell me who you are."

"Nor did you tell me who you are," he retorted.

"Well I asked first, didn't I?" she countered.

"Perhaps... in your time. But I don't live in time at all, you see. And I have to admit it's my nature to have the last word," he bantered, trying to have the last word.

"I think you are quite rude," she countered. "You barge into my sleep—if I am asleep—and you haven't even introduced yourself. If I tell you my name will you tell me yours?" she added coyly.

"That sounds fair enough. You first."

Just then the strangest feeling came over Alisha. She wanted ever so much to tell him her name, if only to be done with this absurd genie, to be parted on terms that wouldn't leave any pretext for further visitations. Perhaps if she knew his name she could blacklist him from future dreams. But try as she might she could not remember her own name to tell him! In fact she couldn't think of anything to say at all. She stared at him, dumbfounded, as he grinned back at her smugly. With a sudden inspiration, she rushed to the little red button that pulsed *Exit*. With her finger on it, she turned to flash him a glare of triumph, then gave it a firm push. Instantly, his figure became transparent and luminous again, then began to flicker and fade until there was nothing left but the trace of his evil grin. And then that too was gone.

Something felt like it was pounding on the inner surface of her skull. It was the sound of her alarm. She had a splitting headache. Her mother appeared in the doorway of her room and looked questioningly at her.

"Alisha, if you don't get a move on, you'll be late for school. Don't you feel well?"

Alisha. At the mention of her name she remembered the nightmare she'd had. "Oh, Mom, I had the weirdest dream. My head hurts," she confided.

“That’s my party girl!” said her mom, cheerfully leaving her the option to conclude that the wine she’d been allowed to drink with them last night perhaps wasn’t the best idea. “Anyway, up with you. Unless you really don’t feel well”.

Her mother’s familiar good humor was reassuring. Alisha. That’s who I am. I’m her daughter, and I’ve just had my fifteenth birthday! “I’m all right, Mom. I’ll be downstairs in a minute.”

“Okay, dear. There’s a hot muffin for you. Hope you’ll tell me your dream, if you can remember.”

How could I forget? she mused, throwing aside the covers. There was the little fortune cookie slip on the night stand. She picked it up to read again—just to make sure she hadn’t dreamt that too. It still proposed the same cryptic message: you are not who you think.

Chapter Two: The Cave of Doom

History was Alisha's favorite subject—perhaps because the history teacher, who also taught science, was her favorite teacher. They had been studying ancient civilizations that term, and all that week Miss Savanti had talked about the early Greek philosophers. Today she focused on Plato. Alisha occasionally dropped by her classroom after school, where several other students would also gather for an extra hour or more, to have lively discussions on a variety of topics they themselves brought up. Miss Savanti moderated these discussions, always encouraging the students to think for themselves. Philosophy was her passion, and while it was not an official subject in the curriculum, the little group was a class in all but name.

She wrote on the board: *Allegory of the Cave*, explaining that an allegory is a symbolic story—a metaphor. Someone raised his hand to make a lame joke about a monster in the cave, who it turned out was Italian rather than Greek—which is why it was “all-a-gory”. Miss Savanti assured her students that the situation was no laughing matter. The monster in the cave was none other than one's own ignorance, trapped in the cave of one's own skull, as she put it. Then she told the story according to Plato. How prisoners there were bound in such a way that they could see nothing but silhouettes projected on the wall of the Cave—never the actual objects casting the shadows, nor the source of light. With time, they adapted to living this way. They took the world of shadows for granted and for real. What would happen, Plato asked, if one of these prisoners were freed to go above ground and witness the world of real objects, of which he or she had become used to seeing only the silhouettes? Wouldn't the light seem blinding? Wouldn't they think they were seeing an illusion, the familiar shadows continuing to be taken for reality? In the discussion that followed, many students insisted they would certainly know the difference. Alisha wasn't so sure. The story reminded her uncomfortably of the strange dream. Closing her eyes, she tried to picture what it was like inside the Cave. She must have been very tired from the night before, because within a few seconds she had dozed off, head resting in her arms on the writing desk where she was seated...

She found herself in a labyrinth of crude tunnels, with rock walls and low ceilings. A little behind stood her companion from the night before. This time he was dressed more sensibly for somebody from a Starfleet battle cruiser. To her surprise, she noticed she too wore the same uniform. Both had headlamps on their foreheads. Obviously they had come here together. But she could remember nothing of that—not even his name. She had no idea where they were or what their mission was, but sensed the presence of others in the cavern besides the two of them. She grasped vaguely that the others posed a threat to them and that they ought to try to remain undetected.

“Zed.” whispered her companion, as though reading her thoughts.

“What?” she whispered back.

“Call me Zed.”

“Nice to meet you, I guess. But can you fill me in on where we are and what are we doing here, Zed?”

As though her apparent amnesia was perfectly reasonable, in a hushed voice he explained they were part of a landing team to rescue some human survivors of an earlier,

ill-fated expedition to this planet, inhabited by a horrifying and fierce ant-like race of human-sized aliens, known as the Formes. A generation ago, it seems, humans had attempted to colonize the Formes' planet, which was rich in certain minerals coveted on Earth. The invasion had met with disaster, however, as the Formes proved well-organized and aggressively resistant to conquest. Turning the tables, they captured those humans unable to retreat off the planet, assimilated and advanced the technology they had brought, and now kept these people underground as slaves in these tunnels. Here the prisoners were forced to carry Formes eggs from one part of the nest to another, extend and maintain tunnels, and serve as bait for the hunting and trapping of other creatures that posed a danger to the Formes race. They were forced to perform menial and often dangerous tasks as part of regular squads of self-sacrificing Formes drones.

The key to the successful subjugation of the humans lay in use of the restraining visor. This was a virtual reality device worn on the victim's head, giving the bearer the irresistible impression that he was himself a member of the ant-like race. The bearer perceived as the Formes perceive, and saw his or her own body—and those of other prisoners—as the bodies of Formes drones. In truth, their hands (which they perceived as claw-like pincers) were unbound. Ironically enough, they were actually free to remove the visor at any time. But the visor's deception was so effective that rarely did it occur to any slave to remove it. Those few who somehow saw through their condition were immediately taken away and never seen again, should they remove the headpiece or betray their realization in any form of suspicious behavior.

Following this whispered briefing, Alisha felt horrified by the prisoners' lot and wanted very much to help them escape. Zed cautioned her that this was inadvisable at the time. They were there only to gather information for a future mission. She mustn't endanger the operation by any imprudent action.

Just then there was the sound of footsteps shuffling in an adjoining tunnel, and the approach of light. They turned off their headlamps and crept further back into the shadows to remain unseen, as a detail of prisoners with their Formes guards tramped slowly by. The humans had adopted the lumbering gait of the giant insects. Just knowing that these people were held captive by a mere hallucination made the sight of them all the more pathetic. Alisha marveled that the difference between the human and Formes bodies, so obvious to her, went completely unnoticed by the prisoners themselves. She felt she had to do something. Just crouching there helplessly in the dark was unbearable. Before Zed could notice or prevent it, she had slipped out into the passageway behind the group that had just passed by.

"Alisha!" he whispered as loudly as he dared. "Come back. Have you lost your senses? I order you to come back at once!" But she was already gone from sight, into the labyrinth of tunnels.

Stealthily she flanked the group until, for some reason, one of the prisoners lagged behind. The guards showed no concern at this. Why should they? The tunnels were a daunting labyrinth, and the subservience of all who wore the visor was taken for granted. Sneaking up behind the prisoner, she grabbed the visor and with a clean motion yanked it off. The poor fellow stood there a moment dazed, then turned to look about him, trying to focus. Seeing Alisha he let out a shriek of terror. Alisha tried to grab his hand and make him follow her back toward Zed. He shrank away from her, so accustomed he was to identifying with the Formes. She had no time to reason with him

as the Formes guards approached to see what the commotion was. She ran off, eluding them for a while. But not knowing the tunnels, it was a hopeless situation. Before long she was caught and held down, while the prisoner she had tried to help was dragged off protesting, presumably to his doom. Though she struggled against it, they had just managed to force a visor on her head and were about to activate it...

At the sound of the bell, Alisha awoke with a start from her brief nap. Disoriented, she realized where she was and what had happened. No more than a few minutes had gone by in her life as a student. But it had seemed like hours she had been in the cavern.

Chapter Three: The Brain in a Bottle

That night she couldn't sleep. Something was terribly wrong. At first it was merely a vague irritation, a gnawing awareness. And then it became more tangible, a numb sensation of thickness in her hands. In a fitful sleep she shifted so as to restore circulation to her deadened limbs, realizing with a half-conscious start that somehow she must have been sleeping on *both* hands. Now awake, Alisha withdrew them from under the covers in the semidarkness. She gasped in terror. They were not her hands! They were not human hands at all, but the pincer claws of the Formes! She threw aside the covers to reveal not her girl's shape in the nightgown, but the bulging ant-like body of the Formes. Just then the light went on and a tinny voice behind her chimed with malevolent satisfaction:

"Ah, you are awake, my dear. I trust you had a good rest after your... operation. The vaguely male voice burst into maniacal laughter, like the mad scientist in old horror movies. Alisha bolted upright and surveyed the room. It was a totally white room, very plain with something medical about it. She saw no door anywhere and no windows either. Along one wall, however, extended a large mirror in which she could see her horrible insect form. The room was empty except for herself and the platform where she was seated, which resembled a hospital operating table. Above the mirror was a small perforated metal box that appeared to be a speaker. She assumed that the voice she had heard belonged to someone observing her from behind the mirror.

"How do you like your new outfit?" the voice continued, with a new peal of laughter. She slid off the bed and approached the mirror.

"Zed?" she queried, thinking she recognized the voice. "Is that you? Is this your idea of a prank?"

"Don't be absurd, child. Your ineffectual friend has been captured too and appropriately dealt with. You'll see him again soon enough—but will he recognize you?" The voice commenced another round of laughter, but she cut him off:

"All right—whoever you are—this has gone far enough! This isn't real and certainly not funny!"

"On the contrary, my sweet, hardly far enough at all," said the voice, reclaiming the initiative. "I fear it's not for you to say. You see, the transformation has only just begun. You still have human memories and a sense of identity that delude you. But be patient. Your experience will soon be more in accord with reality. And since I am now in charge of your so-called reality, it won't be long before these minor discrepancies have been rectified. In the end, your 'reality' will be your reward. Oh, I do like the sound of that. Catchy, no?"

She started to say something, but the voice pressed on in a stern tone:

"Quiet! You are a trespasser. You dared to violate Formes territory and law. Ostensibly to free one of your puny confederates from his just punishment. That could be commendable, I suppose, from your human point of view. But it is this presumptuous and pathetic point of view itself which is the real crime. That we cannot forgive. Your people lord it over the species and tribes of your own planet. Unsatisfied in your lust for conquest, you tried in vain to subjugate us. All in the name of your supposed reality! You think yourselves superior, that you and you alone see things as they truly are. *That* is your crime—and the punishment will be fitting! From now on you will see things as

we dictate—our way! At present you still have memories you claim as your own. But not for long. You see, we performed a little operation on you while you slept...”

“You gave me this repulsive ant body, you mean! I want my own body back, my real body!” she protested angrily.

“Silence! There, you see? That’s exactly the sort of thing I mean. *Your real body*—come, come! From now on reality is *my* department. As I was saying, we performed a little *corrective* surgery on you,” he giggled, as though it were a private joke he was sharing. “To be plain,” he went on snidely, “your brain has been entirely removed from that pitiful organism you used to call your body.”

“You’re telling me you transplanted my brain into this... this thing?!” She was outraged now, beyond fear or pity for herself. “This is absurd! I *must* be dreaming. And whoever you are, I’m going to dispose of you right now by waking up.”

“Poor dear...” said the voice, with mock sympathy.

“Stop calling me dear, you... you monster!” shouted Alisha.

“Now, who is the monster, exactly? You haven’t even seen me, but have you had a look at yourself lately?” He roared insanely with laughter, then, collecting himself, suddenly turned serious. “To return to the presumptuous question of transplanting your brain into a Formes body. Do you really think we would waste a good Formes brain, replacing it with the likes of yours? No, and again no! Everything is a good deal more subtle than your puny human brain suspects—which is to be anticipated. You see, the brain in question has not been transplanted at all. It has no body, and never will again! We have carefully placed it in a special jar, where it will be kept alive for some fascinating future experiments. I do hope you are interested in science!” The voice roared with malicious laughter again before carrying on: “It is delicately wired to a powerful computer, programmed to send it exactly the sort of messages it used to receive from your body and senses. Only, in this case, the computer invents the messages to create for you an entirely new reality. Yes, that’s right: the Formes body you seem to have borrowed is merely what you call a virtual reality. Everything you are experiencing at this moment, and everything you are about to experience, including your new memories, is a simulation we have carefully prepared. Your brain will be used to test and evaluate these new programs. Alas, I too am part of the simulation. But of course, there are real scientists who created me. Formidable Formes scientists, who will soon find fame and fortune from this farsighted research, and for whom I am the formal voice, if you follow,” the voice cackled, delighted with its alliteration.

“Well you don’t scare me, you flat-footed fake! I know who I am. And now I know that you’re nobody at all—nothing but a program,” she returned fire, not to be outdone. “And whether or not this body is real, I know *I* am real, because it’s me aware inside!” declared Alisha, pleased with her logic.

“Don’t be too sure,” argued the voice. “You think you know who you are because you have a history of memories to draw upon. At this very instant, however, we are busy reprogramming those memories. The past you recall is gradually being replaced with a past of our design. You won’t remember your human life because it will never have happened. Nor will you remember this conversation, which could never take place in your new life. You will cease to think of yourself as... as... I’m sorry, but I myself have forgotten your name.” And he launched into another spasm of laughter.

She tried to make her lips say the name, to prove him wrong. To hold on to her identity, to save the last shred of herself. It was no use. She blacked out as she was straining to reach down a long dizzying tunnel to catch a name that fell constantly away, further and further into darkness...

From the bottom of that tunnel, from the stillness that had been there perhaps forever, there emerged a faint sound, a distant cry. A little louder this time, it sounded familiar. A name was being called and she knew the voice. It was a familiar female voice, a familiar name. The whole tunnel rocked gently to and fro as she reached down again toward the name that was now racing up toward her.

“Alisha! Wake up, my dear,” said the voice insistently. She opened her eyes with a start. A woman was leaning over her, shaking her gently, smiling. It was her mother.

Chapter Four: The Twin

That morning, on the bus to school, Alisha knew she had to see Miss Savanti as soon as possible. She was in a sullen mood. The dreams were getting out of hand. She was hesitant to tell her mother about them, for fear of being scheduled to see the school psychologist. Well, who wouldn't think she was crazy? Only her teacher. But then again, perhaps she should see a doctor or get some kind of help. Sometimes it felt like she was losing her marbles. They were certainly the strangest dreams she had ever had. And last night's was terrifying—although she had to admit to a certain calm throughout the whole thing. Perhaps that was the key to knowing it was a dream rather than reality? She needed some answers before she really did go mad with uncertainty. Or before someone else decided she should be medicated. Miss Savanti was the only one—the only real person, that is—who could understand, who wouldn't freak out at the sheer weirdness of whatever was going on. There was Zed too, of course, though aside from not being real, he was a fruitcake himself, the beginning of the problem. Perhaps he was the part of her mind that had gone a little bonkers? What else to think? Things like this don't happen to normal fifteen year old girls. Well, she'd never considered herself especially "normal," or even wanted to be. Quite the contrary, she had always liked being different, special, a little edgy. But eccentric was one thing and crazy was another. Had she somehow gone too far, no longer merely cultivating an offbeat image to her advantage? Something beyond her control was pursuing her, and she had to find out why. She just needed to talk to someone about all this, and her friends and her parents were out of the question. She hoped to high heaven Miss Savanti could offer reassurance. She would at least be sympathetic and not too alarmed.

Alisha made it through the first period at school, and after break there was history class. She urgently hoped her teacher would be there. Miss Savanti had been ill last week and missed a day. Alisha didn't usually like the substitute teachers, who seemed for the most part like glorified baby sitters—or prison wardens—take your pick.

She walked into class just after the bell rang, hoping to catch her favorite teacher's eye with a look that said *I need to see you after school*. But her heart sank when she saw that it was indeed a substitute teacher. With his back to the class, he was writing something on the blackboard that began: *You are not who...* She was just about to slip into her regular seat when she noticed it was occupied. With growing apprehension, Alisha let herself sink into the empty chair directly behind. The girl in front of her had hair the same color and cut as her own. What's more, Alisha realized with astonishment, she wore the same blouse and skirt, and had placed over the back of the chair—*her* chair—a coat identical to the one she herself had just removed! She reached out tentatively to tap the girl on the shoulder when the substitute boomed, in a voice that seemed familiar:

"Good morning cherubs!" Let me introduce myself. My full name is rather difficult, so you may prefer to call me Mr. Z." He caught Alisha's eye and smiled his best evil grin, then continued, still looking in her direction:

"Perhaps someone can fill us in on last night's—I mean yesterday's—lesson. How about you, Miss... er... what's your name?"

Just as a dumbfounded Alisha was about reply, the girl in front of her stood to speak. She turned slowly around until the two girls' eyes met and, with a friendly smile,

she began to mouth the words: *my name is Alisha Pelerin*. Indeed it was someone who looked exactly like her, besides having the same name and clothes! Alisha's head began to spin; she felt sick and confused. With the new girl—the impostor—still gawking at her, she faced the teacher—or Zed, or whoever it was and interrupted:

“All right... Mr. Z... what's going on?! Is this another of your hollygrams?” she sarcastically demanded to know.

“Hologram”, he replied calmly, drawing out the sound of the h. And please hold your temper, my dear. What will your classmates think?”

Alisha surveyed the room. All the familiar faces were staring at her impassively but no one spoke. The girl in front sat down again.

“Well, if they're holograms too then they probably *don't* think!” She practically shouted to see what effect her outburst might have. No one flinched, not a word broke the silence. All eyes remained fixed on Alisha.

“There!” she said, “I told you so. They're just a bunch of zombies you made up from your imagination—or my imagination, or whatever!”

“I assure you, zombies are quite another story—perhaps another dream, eh? We're all just a little stunned by your rudeness. Come to think of it, you haven't even introduced yourself. Class, I hope you will excuse...” Looking back at our heroine, he said, “I'm awfully sorry, what was your name?”

“Stop this at once, Zed!” she demanded. “You know very well what my name is.” But for the brief duration of that peculiar moment, she couldn't actually recall just what that name was, even though she was sure she had just heard it.

“It's... it's... well it's the same as hers,” she stammered, pointing to the girl in front. “Only it's *my* name and she's stolen it! She's taken my whole identity! But this is totally crazy. Either I'm dreaming or I really am losing my mind. Now I *demand* to see the psychologist!”

“Either/or, either/or,” Mr. Z mumbled to himself before addressing Alisha: “Calm down, child. I can assure you that you are not crazy at all. In fact, the opposite. And very brave, I might add. You asked to know what is happening here. Well in my estimation, your mind is strong enough to confront a basic fact of life that most people are in a great hurry to ignore. In my opinion, which is admittedly far from humble, it makes no difference whether you are waking or sleeping at this moment. The important thing is that you want to see things as they truly are, and there is nothing crazy about that. On the contrary, this is a great virtue and rare in someone so young. So, please indulge me by allowing us to proceed with this little charade. I promise you it will be quite instructive and you will not be disappointed.”

Alisha felt tentatively reassured. There was something in his words and manner that reminded her of Miss Savanti. Perhaps this substitute was also a philosopher?

“All right, then,” Alisha said provisionally. “But if I'm not crazy how did there get to be two of me? I'm sure I would never think of such a thing even in my wildest dreams. Is she even real?”

Just then the girl in front—the other Alisha—protested softly: “Of course I'm real. I'm just like you... I guess exactly like you.” At that moment the whole class came to life, as though suddenly thawed from suspended animation. There was general mayhem and confusion, promptly curtailed by the thunder of Mr. Z's voice:

“All right, class, calm down. All will be explained in due course. But first things first. I would like you all to say hello to the new girl. Alisha, would you please stand so the class can greet you.”

At the sound of their name, the girls eyed each other hesitantly and then, in exasperation, turned back to Mr. Z.

“Ah”, said Mr. Z. “I see the problem. Though you are both named Alisha, each of you thinks the other is the new girl. Isn’t that interesting? I suppose we must determine which of you is which.

“That’s ridiculous!” said Alisha, this time rising from her chair. “I’m Alisha Pelerin. I’ve been in this class all semester and *she* showed up here today calling herself by my name. Isn’t it clear she’s an impostor?”

The other girl stood up to defend herself: “No that’s ridiculous. *I* am Alisha Pelerin. You all know me, don’t you? This is my fourth year at this high school and before that I went to Templeton Junior High and before that to Sunnyside Elementary. I just had my fifteenth birthday last week and I was born in Saint Mary’s hospital...” and she continued to rattle off her vital statistics while the other Alisha sat with mouth open, incredulous.

“Okay, okay,” piped in Mr. Z. “So it appears you two are not only genetically identical—and have rather similar tastes in clothing—but somehow you also have the same memories. Very peculiar. There really can only be one satisfactory explanation.”

“And what is that?” the two Alishas demanded in unison, each casting a frown at the other.

“It appears that you are perfect clones,” Mr. Z announced with the authority of Sherlock Holmes. “One of you—for the likes of me I can’t really say which—must be the original and the other is an identical copy. Complete with the same memories—up to the moment of the cloning, I suppose. We’ll go into that shortly. There are several pertinent questions, but first we must establish a way of telling you apart.”

“That’s easy,” proposed one of the students, pointing to the girls in turn. “*She’s* sitting in this chair, and *she’s* sitting in that chair.”

“An excellent point,” said Mr. Z. “Seriously, class, and no cloning around, another way to put it is this: though they are qualitatively identical, yet they are numerically distinct. That means they are alike in every conceivable way except that they happen to be two rather than one. The only difference between them is that they occupy different positions in space. Clear?”

One of the Alishas turned to the other to whisper: “I don’t know about you, but I really don’t care for being a specimen in this...”

“Farce?” suggested the other Alisha.

“You took the words right out of my mouth,” the first one continued. “Still, I suppose we have to get to the bottom of this.”

“Listen up, girls. This concerns you,” intervened the teacher. “Now class, what is the crucial question here?”

A hand raised. “Which one is the real Alisha?” proposed the owner of the hand.

“Yes. Good. But there are a few finer points to straighten out along the way. Shouldn’t we distinguish between real and genuine? After all, at least one of them could be an illusion, a mere appearance...”

“A hologram?” piped in a student’s voice.

“Thank you, yes. And therefore not real,” continued Mr. Z. On the other hand, they might both be flesh and blood all right. But only one of them, at most, can be the genuine Alisha—the original from which the other was copied.”

“But that’s what we mean by real, isn’t it, Mr. Z? The original one”, another student joined in.

Yes, of course,” the teacher conceded. “Only bear in mind they could *both* be copies. Or they even could both be illusions, no? These are separate questions, you see. But admittedly finer points.

The students began to crowd around the two girls, trying to pinch them and poke them to see if they were flesh and blood.

“Leave us alone!” the girls shouted as one. Both Alishas thought that if this was a nightmare, now would be as good a time as any to wake up. As though anticipating their fears, Mr. Z suddenly broke up the melee and restored order.

“All right,” he boomed, pausing to wait for the students’ attention. “You’ve actually touched them. Does that prove they’re real? What do you think?”

“Well I touched them and they both seem real to me,” a student offered.

“OK. But I notice we still don’t have a way to designate them. How about we call this one (pointing to the girl in front) Alisha One, and her Alisha Two?”

Alisha (that is, Alisha Two) stood up to insist that she be called Alisha One, since she was certainly the original. Then the other one stood up to protest that *she* was the original.

“Now, now, girls!” interrupted Mr. Z. “Which of you is the original is exactly what remains to be decided. As for the designations, they are arbitrary, so take no offence. Turning parenthetically to the class to continue his explanation, “That means they could be named the other way around but it would make no difference for our purpose, which is to tell them apart. This one is in front, so it seems reasonable to name her number One.”

“But this is all nonsense!” protested the Alisha sitting behind. “I’m the real one. I was here first!”

Mr. Z calmly met her objection: “Well in point of fact, my dear, that is not so. You may recall that this girl was already sitting in ‘your’ place when you arrived this morning—I must say, none too early. Perhaps if you were a little more prompt these situations wouldn’t arise.”

The suggestion that this “situation”—this *nightmare*—was somehow her fault because she came in late to class was too much for poor Alisha Two, who had never been late until these nightmares has recently disrupted her sleep regime. She stood up and yelled at Mr. Z and the other Alisha and the whole class: “I hate you all! I want you out of my dream. Now! And if you won’t go, then I’ll leave myself.” She glared at them, while they stared back at her, immobilized in a standoff. Then she grabbed her coat and books and fled from the room.

We don’t know exactly where Alisha went when she left the history class. Wherever it was, it seems we have remained behind to deal with her dilemma. We are, after all, the hearers of her story. And since it is only a story, and only we remain, it is in our consciousness that it must unfold. Perhaps she went for a walk to pull herself together and will return shortly. Or perhaps she did indeed wake up to find herself in bed at home,

snug as a bug in a rug. We can only wonder at such questions as: where do characters in stories go when the story continues without them? And also: do story characters even exist except in the minds of readers? But since Alisha is at least a *genuine* story character, it seems we owe it to her to unravel the mystery of identity presented by the curious appearance of her twin. We owe it to ourselves as well. There may and may not be a flesh-and-blood Alisha, but certainly there could be. And all that has befallen the poor girl could, after all, happen to any of us. Let us return to the classroom, then, to see what sense we can make of it all.

Alisha One looked very distressed. She turned to Mr. Z apologetically: “I never meant to be a trouble.”

“Rest assured, it’s quite all right, my young friend,” he said comfortingly. “No one blames you for simply existing. And that’s what’s caused the trouble—just the fact that you exist. It’s certainly nothing you have done. Nor must you worry about the other Alisha. She’ll be fine. If your counterpart has chosen not to remain with us in this... er... classroom, it can’t be helped. She has free will, you know. Well, actually that’s another issue. We must deal with these things one at a time. At hand is the question of your identity—or mine for that matter. Let’s suppose, just for the sake of argument, that the other Alisha is the original one, and that you have been somehow copied from her. Let’s review what we know, in hopes we can figure this out, step by step. Okay?”

Alisha One suppressed an impulse to object, since she knew herself to be the original, but allowed Mr. Z to continue.

“When there were two of you present, you were at least numerically distinct—as I was saying—though identical in every other way at the moment of your cloning. You even had the very same memories. Of course, ever since that moment both of you have been free to wander about separately collecting new memories and therefore separate identities. These would necessarily be different. After all, even if you were stuck together like Siamese twins, you would each occupy a slightly different perspective in space. Your experience would be at least minimally different, and therefore you would have to be considered two individuals, each with a unique history. That’s clear, isn’t it? Do you follow so far?” She nodded as the rest of the class murmured assent. “By some odd coincidence,” he continued, “your wanderings brought you together again in this classroom. Your paths intersected and rejoined briefly, but now have parted again. The original Alisha has disappeared, leaving only yourself, the copy. Suppose she died...”

“Oh my goodness, I certainly hope not,” declared Alisha One. “I would feel so guilty.” And she genuinely was distressed.

“Don’t worry—we are only *supposing* here. For the sake of argument, as they say. I am sure she is quite all right. But just suppose that she had died in the process of duplication—in the moment that you, her offspring, were created. The situation is rather less clear in that case, wouldn’t you say?”

“I’m afraid it is,” confessed Alisha One. “It’s an awful lot of supposing, Mr. Z.”

“Bear with me, and try to follow the argument a little further. Since there is now only one of you, we might be tempted to forget there ever was another Alisha. You could just move into her life and take her place, and no one would be the wiser—except for the few of us here and whoever, if anyone, was present at the cloning. Even so, we can still

insist there are two individuals involved—Alisha One and Alisha Two—and that one of them simply replaced the other.”

“That’s right, Mr. Z,” interjected a student. “We all saw that there were two girls who looked alike, and now there is only one.”

“So far, so good,” continued the teacher. “But now suppose that instead of a cloning process, which only one twin survives, something a little different happens. Suppose there is a teletransporter that can beam you from one place to another...”

“You mean like on Star Trek?” queried a student.

“Exactly,” continued Mr. Z. “Suppose Alisha gets into the transporter. Now, presumably the teletransporter works by making an exact copy from your blueprint, so to speak. This is then coded as information to be sent across space by radio waves to another location. There your body is reconstructed from the transmitted information. Like a TV image is broadcast and reconstructed in your receiver at the other end.”

“And so, instead of just your picture, it would be your body that was sent from one place to another, at the speed of light, is that right?” another student wanted to know.

“That is correct, or nearly so. Actually it is only the structure of your body, in all its detail, which would be transmitted. The blueprint, as I’ve called it. Your body, which steps into the transporter at this end, is made of a mass of molecules well organized in a very particular way. It’s the pattern of organization that is transmitted. The molecules themselves would have to remain behind. For one thing, they can’t travel at the speed of light. What is sent is the information, about how to reconstruct your body in exactly the same way from other molecules at the other end. You have raised a very important point. The molecules of your body here and the molecules of your body there would be entirely distinct, in different places. ‘You’ would arrive at your destination with a numerically distinct body from the one you left behind. But I think what we mean by a person’s identity has more to do with the unique way it is organized, and less to do with the particular molecules that compose the body. And if the teletransporter is doing its job without error, then that is precisely what would be transported: your identity. After all, the body is constantly renewing itself night and day anyway. Cells die and new ones grow in their place. The molecules that make up your body are slowly being replaced by others, but your identity remains the same. Or does it? People do change. If nothing else they grow older. You look and act something like the little child you were a few years ago, but you are also quite different. What exactly makes you the same individual? Which brings us to the point of my digression. What exactly is the difference between the following three situations? Number One: the baby changes radically by growing up, but is always considered the same individual. Number Two: the clone replaces the original. And Number Three: the person is teletransported from one place to another. Since class is almost over, that will be your homework. Write at least a one-page essay on identity, which discusses these three situations. Oh, and by the way, let’s add a fourth situation. What about the person who goes to sleep at night and wakes up in the morning. Are they the same person? How do they know? Better make that *two* pages.

“Well class, it’s been a pleasure meeting you. I hope you don’t lose any sleep over your assignment,” he snickered. “Your regular teacher will be back tomorrow, same as usual—if, of course, it can *be* the same person. Better make that five situations and three pages...” The students were groaning and ready to bolt out the door before the

teacher could think of any more wisecracks or further “situations” to add to their homework. Mercifully, the bell rang just then...

And rang and rang. It was Alisha’s old wind-up alarm, slowly unwinding. The battery had died the day before in her electric clock. She had the strangest thought. Still half asleep, she wondered if it could be the same electric alarm after it had a new battery. Then she wondered whether the dying wind-up clock would be the same clock after it was rewound. All at once the amazing nightmare of the twin Alishas came back to her. Suddenly in a bad mood, she groaned and called out to her mother, “I’m running late, Mom. Could you please drive me to school? I just don’t want to be late today!”

Chapter Five: The Executioner

She arrived early, in fact. And the real Miss Savanti was there and was happy to meet with her after school. Alisha began her story at the beginning, which as far as she could tell was the strange fortune from the Chinese cookie.

“Yes,” agreed her teacher, “that is certainly not the run-of-the-mill fortune cookie message. It’s rather mysterious sounding, isn’t it? But there is something else odd as well. It’s something of a paradox. You know what that is, don’t you?”

“A puzzle? Something that boggles the mind?” Alisha hazarded.

“Yes—in a particular way,” continued her teacher. “A paradox is a contradiction, which says both yes and no, and undoes itself, so to speak. A statement which, if you assume it to be true, turns out to be false, and if you assume it to be false, turns out to be true. I think your fortune-cookie manufacturer may be a bit of a logician with a sense of humor. Paradoxes are a favorite interest of logicians. What was the exact wording of the message—‘you are not who you think’? Of course, whoever composed it doesn’t know who you are, and certainly doesn’t know who you think you are, or anything else that you think, except perhaps for some predictable responses to the fortune message itself and the fact you probably like Chinese food. It’s tricky that way. It must have been intended for anyone who might happen to read it. So you really can’t take it personally. Whatever it means must apply universally. But is it true? That’s another question. To me it smacks of self-contradiction. For, the message might have convinced you to think of yourself as someone who is not who she thinks of herself to be! Am I right?”

Alisha pondered a moment. “Well, I guess so. Because, I was beginning to consider who I might be if I’m not who I think I am. And then I started having all sorts of really weird dreams about becoming someone else or someone else being me...”

“Forgive me for interrupting. I do want to hear about these dreams. First, though, let’s finish with the fortune cookie. It would have been an entirely different message if it said ‘you are not *what* you think’ instead of *who*. That would be an interesting metaphysical statement, but no contradiction. What I want to point out is this: the message has the strange effect that if you believe it, then you must be someone who thinks she is not who she thinks she is—in which case, the message denies that she is that either. And if you don’t believe it, then you must be someone who is who she thinks she is—even if she happens to think she is someone who is not who she thinks!

“Oh this is too much confusing,” protested Alisha. “I am beginning to think of myself as someone who thinks too much!”

“Yes, paradoxes have that effect. They are like thoughts that trip over themselves. Perhaps the most famous one of this type is the Liar paradox. It was first proposed by an ancient Greek who happened to be from the island of Crete. He put it like this: *All Cretans are Liars*. Simple, no?”

“Yeah. And I guess he should know, since he was from Crete himself,” she observed.

“Exactly. But if it’s true, and all Cretans *are* liars, then he must be a liar too—in which case his statement is not true, since it must be a lie. But if it’s not true—because not all Cretans are liars—then he must have been lying in making the statement, or at least mistaken, and so it’s true after all.

“I see your point,” said Alisha, still reeling. It flips to the opposite of whatever it seems to say. Kind of like a switch that turns itself on if it is off, and off if it is on!” She was proud of the analogy, which she rightly believed would be appreciated by Miss Savanti, who was also her science teacher.

The latter continued: “The most direct form of this switching routine, in plain English, is the statement: ‘This sentence is false’. As you say, if an electrical switch were wired like this sentence, the logic of its diagram would say: if on, then off; if off, then on. If the statement is true, then it’s false. And if it’s false, then it must be true. What to do, eh? It *immediately* cancels itself out, since time doesn’t enter into logic. But time does enter into physics. Just that same logic can be used to make a buzzer or vibrator, or any other kind of cyclical process, because there’s a little delay between the steps of the logic, and so between the on and the off.”

“So do you think my fortune cancels itself out or is just vibrating?” Alisha kidded. “It’s a good thing I haven’t been dreaming about fortune cookies. At least that really happened. Look, I still have it.” She rummaged briefly through the contents of her small handbag, producing the little piece of paper. “Maybe I’ll go into the fortune business myself. I think a good one might be: *this fortune will never come true.*”

They laughed together and invented other impossible fortunes. She felt relieved to think of it as the prank of some bored amateur logician, rather than a spooky personal birthday message. And then, what could be more logical than logic? If even it has a crazy side, then perhaps her dreams weren’t so wacky after all.

“I still want to tell you about those dreams,” said Alisha, “but I see it’s getting late. Thanks, Miss Savanti. I do feel better now.”

“How about we continue this tomorrow?” her teacher suggested.

“That would be great. Thanks again.”

That night Alisha actually looked forward to dreaming. She wondered what mind-boggling dilemma might be presented next. She thought about the pattern of the dreams—how they seemed so real, yet each one was about some very tricky situation, perhaps impossible in real life. It seemed she was getting the hang of whatever was going on in her unconscious—or wherever such things come from. She lay awake a long while wondering about how we can be sure of who we are—how we can be sure of anything at all! No longer worrying, such questions began to give her a little thrill. Pondering them well past midnight, she finally drifted gently off to sleep...

Someone was moaning next to her. She opened her eyes with a start and found herself lying in a small cell on a hard and narrow bed. Another person lay a few feet from her, on the other side of the cell on a cot like her own, under a single grey blanket like the one that covered her. A man was sobbing and muttering something about not wanting to die.

“Hello? Are you all right?” Alisha ventured.

He sat up on the cot to face her and she saw that it was Zed.

“Oh, it’s you! Where are we? And what’s the matter?” she asked, surprisingly unsurprised to see him.

“The matter is my imminent demise,” he said woefully. “As for our whereabouts, well don’t you remember? We were captured by those horrible ant creatures. It’s your fault, you know. If you weren’t such an impetuous meddler...”

“Impetuous?” she queried, not knowing the word.

“If you had just obeyed orders and not broken rank we might have gotten out of there in one piece. But you had to go in for heroics.”

“Oh yes. I remember now,” said Alisha calmly. But you do know that was only a dream, don’t you?”

“A very horrible one, I should say!”

“But a dream just the same,” insisted Alisha. “It wasn’t real, you know. And this... this is also just a dream, Zed. Don’t be upset, whatever the problem is.” She tried to comfort him, but to little avail.

“That’s fine for you to say. I’m the one who’s condemned to die. My life is going to end. I’ll go out like a candle. Think of it—just suddenly no more Zed. No more anything! Tomorrow, or whenever, for me the whole beautiful world will cease to be. And then, just... nothing... blackness... forever, I imagine. Oh, I *can’t* imagine! It’s unthinkable. And I don’t even know exactly when. I suppose that’s part of the punishment. They’re very cruel, those Formes. The suspense is... well, killing me! And you say don’t worry!

“Stop your blubbing, Zed. Everybody dies sometime. But in your case, you won’t really die because you aren’t really alive. You’re a hologram, remember? Not even that—just a dream of a hologram! Anyway, where do you think you go when I’m awake? Calm down now, and try not to be so melodramatic. Everything will be okay—believe me. Tell me exactly what happened.

“Well, all right,” began Zed, feeling somewhat reassured about his situation, if not his realness. “After your capture, they caught me too but I had no idea what had become of you. I’m so glad you are all right. Did they harm you?”

“Not really. It was bizarre and scary, but actually painless. They tried to convince me my brain had been removed, or something like that. They certainly do have weird ideas about torture. I don’t remember how I got here in this cell, Zed, but I wouldn’t take your situation too seriously. We can wake up from this whenever we choose. At any rate, I’m sure I can. Now, tell me the rest of your story. Real or not, we’ll get to the bottom of it,” Alisha added confidently.

Zed began again: “Well, the Formes don’t exactly practice due process of law. Instead of a trial they whisked me off to a lengthy interrogation and a battery of psychological tests—a profile, I suppose. After they decided what sort of character I am, they proposed a deal.”

“What kind of deal?” Alisha asked.

“I was offered an official position. As their... uh, well... their Executioner, you see. In exchange for my life, Alisha! I had no choice. And, well, I accepted—given the alternative.” Zed was clearly a bit sheepish about the deal he had struck.

“I see,” said Alisha with growing suspicion. “And how many heads have you lopped off to date? Or however you do it! I suppose if they had brought me before you, you would have executed me too. Is that the story, good old Zed? And now, by some turn of events, you are forced to take your own medicine, is that it? I can’t say I feel that sorry for you.”

“No! You don’t understand. I haven’t executed anyone—yet. And I can assure you I don’t relish the idea. You see, they brought me before them again the very next day, to announce that my first duty was to be performed sometime in the following week.

Part of the punishment for the victim was to be the anxiety of not knowing on which day they would die. The Formes left it up to me to decide upon a day that would, beyond any possible doubt, come as a complete surprise to the condemned. That was their sole proviso, and they were very insistent on it. Those Formes! Their sadistic streak is decidedly subtle. The whole thing would prove as much a torture to me as to the victim—in a way I could not then foresee. But I'm getting ahead of the story. At first I thought it would be simple to choose a day. I would just flip a coin or draw straws. But something about the matter began to prey on my mind, perhaps initially because I didn't cherish—as you put it—lopping off someone's head. And thinking more and more carefully about the matter, I realized there was something terribly wrong about the whole thing."

"I should say so," interjected Alisha. "Doing the Formes' dirty work to save your own skin!"

"No, no!" protested Zed. "I don't mean *morally* wrong. There was something *logically* disturbing about the whole business."

"Oh good. Logic! I'm so glad to hear it," she pronounced sarcastically. "Why is it you are never logical when you ought to be, and now you bring in logic where it doesn't belong?"

"Bear with me, old friend. It does belong. You see, I began to analyze the situation in the following way. The execution must come as a surprise to the condemned. So I put myself in his shoes, heaven forbid. I reasoned that if the condemned party made it through the week to the last day, that would mean the execution had to take place on that day, the last day of the week. But then, on that day, the prisoner would know which day he would die—and therefore the sentence couldn't be properly carried out. Well, then, how about the *next* to last day, I wondered? I then realized to my dismay—and also relief—that the same reasoning applied all over again: there now remained only six possible days on which the prisoner could be surprised. But again, if he made it through five of them, he would know he was to die on the sixth day. And so the sentence couldn't be carried out on that day either! By repeating this reasoning, I eliminated the other days down to the first. With only that one involved, it certainly could be no surprise to be executed on that day. I realized the sentence could not be carried out at all! On the one hand, I was greatly relieved, as you can imagine. But on the other, I couldn't help wondering what would happen to me for failing to carry out my orders."

"The Formes do seem to go in for cruel and unusual punishments. As for your reasoning, though, that seems more than a little fishy to me. What if you just showed up one day to take the prisoner to his doom? I'm not suggesting you should, you know. But I think perhaps wishful thinking has gotten the better of your logic. If your prisoner had deceived himself with such questionable reasoning, then any day you picked would come as a surprise, wouldn't it? And therefore the sentence *could* be carried out. Sorry to be the bringer of bad news, old boy."

Zed looked despondent. "Dear me. Now that you've pointed it out, I fear you may be right. How could I have been so naive? I was so hoping this offered a way out. I'm afraid I really don't go in for executions. Especially my own."

"What?! What did you say? What do you mean *your own*?"

“I was just coming to that,” Zed explained. You see, there is a further complication I haven’t mentioned yet. As it turns out, the prisoner I am supposed to execute is me.”

“This is too weird. Why didn’t you say so in the first place? This makes, like, zero sense. Do they really expect you behead yourself or whatever? And how could they expect you to surprise yourself with the day of your own execution?” she wondered.

“Yes, strange indeed. A further example of twisted Formes humour, I expect. But seriously, I suppose one could get around the problem by letting the day be decided randomly: a toss of the coin each day should do it—rather than in advance. To wonder each and every day whether it might be, as they say, a good day to die!”

“I see your point,” she conceded. “That would even leave you with at least a very slight chance of making it through all seven days without the coin coming up heads—forgive the expression. But how does an Executioner go about executing himself, should worse come to worst? Surely not with an axe!”

“Well, perhaps there’s something in that. The whole thing does seem rather unorthodox. Since, as you point out, I don’t even really have a body, with a head to detach from it, I’m not quite sure how it applies to my situation. But there’s something else troubling that could bear on this. The Formes read me my job description, so to speak. It seems that the duties of Executioner are formally defined. Officially, the job is to execute ‘all those and only those convicted who do not execute themselves.’ The Executioner is spared the onerous task if the prisoner will do it himself.”

“How nice of them to leave you the option of Harry Carey,” she commented ironically. “All those and only those... it sounds so technical. I guess lawyers are the same everywhere... Well, what do you make of it?”

“Hara kiri, I believe it is,” he corrected dryly. “What I make of it is this. The Executioner is supposed to do his job on those who refuse their suicide ‘option’, as you put it. But as both Executioner and condemned, that puts me in a rather awkward situation, don’t you agree?”

“Both of us seem to have a knack for awkward situations,” she conceded. “This one is very puzzling indeed. I can’t quite figure it out. Look, if as prisoner you choose to carry out the sentence yourself, then wouldn’t you be violating your role as Executioner? And as Executioner, wouldn’t you be preventing yourself from exercising your option as prisoner? ”

“I suspect this may be another of the Formes’ mental tortures,” added Zed. “It seems I’m damned if I do and damned if I don’t. As Executioner, I can execute only those who don’t take their own lives. But if I execute myself, I will be taking my own life! I confess I can’t figure it out either. But if we can’t sort it out, then perhaps the Formes can’t either.”

“Or perhaps they’re way ahead of us and have put you in this situation just to drive us both crazy!” suggested Alisha.

“In any case, we’ve reached an impasse,” Zed observed. “As Executioner it seems I simply cannot do my job—and I can’t *not* do it either. Something has to give. I fear it may be my mind. There’s no point in you staying around—there’s nothing either of us can do for the moment. This would be as good a time as any for you to wake up, my dear. I’ll just have to ride this out alone. Perhaps, if I wait long enough, eventually

one side or the other of this... this whatever it is... will give way and I'll be released—from confusion, if not from prison. In the mean time I still have my neck.”

“I suspect the word you were looking for just now is *paradox*,” cautioned Alisha. “If so, I fear you could be in for a very long wait.”

“I'll miss you, Alisha,” he said, waxing sentimental. “I dare say I shan't have anyone to talk to. Except myself, of course.”

“I'd be careful about that, Zed. Knowing the Formes, it might be illegal for prisoners to talk to themselves. And worse than that, you might have been appointed Official Orator behind your back. You know: someone whose job description is to talk to all those and only those who do not talk to themselves. You're in enough trouble already, old friend.”

“Oh shame on you. You're mocking me at a time like this,” he reprimanded.

“Somehow I think time is irrelevant here,” she rejoined. “Bye, Zed. Try to cheer up.”

Just then the ugly head of a Formes guard appeared in the little window of the cell door.

“No talking to yourself!” it growled.

“But I wasn't talking to myself, sir. I was talking to *her*...” Zed was saying as he turned to point to Alisha. But Alisha had vanished.

Chapter Six: The Un-Rainbow

“Very interesting, Alisha,” Miss Savanti was saying about the dream of the night before. Alisha had dropped by the classroom after school as agreed. “You seem to be a natural born philosopher,” her teacher noted warmly. “These are truly remarkable dreams, unlike mine or any I’ve heard of. Well no, that’s not quite true. Your dreams are remarkable because they are about very deep questions that are hardly personal. They are philosophical dreams. I suspect some of the revelations of Descartes, the seventeenth-century French philosopher, may have come to him in dreams. And a number of scientific problems have been solved in dreams. For instance, a chemist in the nineteenth century dreamed of a snake biting its own tail, and this gave him the clue he needed for the structure of the benzene ring. And then there is Einstein. When he was your age, he daydreamed about what it would be like to surf on a light wave. His thoughts about this, over the next ten years, became the basis for the theory of Relativity. Which, as you know, was a revolution in how we view time and space. You seem to have a natural bent for some of the classic problems of philosophy. Very few people think about these things, much less dream about them. What makes such questions elusive is that they are so simple and close to home. They are about how we see the world and how our minds work, and about the remarkable fact that there is even such a thing as seeing at all. And about the fact that there are such creatures as you and I to do the seeing. I hope you will keep wondering—and dreaming—about these questions! My guess is, you might have some important contributions to make a few years down the road.”

“You really think so? Miss Savanti, do you ever wonder what it is like to be someone else? Or to be an animal, for instance? I even wonder what it feels like to be a bug. I watch them sometimes, wandering around in the grass—or along a twig, waving their feelers in the empty space when they come to the end. Sometimes they seem so lost. Do you suppose they have feelings like people?”

“Probably not like human beings, Alisha. That would be my guess. I doubt that bugs are happy or sad, for example, or that they feel lost. They may not even feel pain. But they might experience *something*. It’s a tough question. It’s hard to know how to think about it even. We’re certainly not the first to wonder. People must have been curious about the experience of other creatures for thousands of years. Ever since they conceived the idea of experience, I should think. And that must have been when they first acquired self-consciousness.”

“Self-consciousness? What do you mean exactly?” Alisha questioned.

“To wonder what it might be like to be another person or another creature, one must first have some concept of what they might experience. One must have the idea of being someone oneself, a subject who has experience. That’s self-consciousness—being aware in the moment of one’s existence as an experiencing self. We take for granted that people, animals, insects—along with rocks, trees, stars and everything—all exist together in the same universe: as *we* see it. We take for granted that how *we* experience the universe is how it really is. But then we wonder how these other creatures might see the universe, how *their* experience might differ from ours and why. It’s a double standard, you might say. Because, all the while we are wondering such things, we assume that how we see the universe is not just the experience of a creature that happens to be us, but is reality itself. We end up with a concept of experience as an inner world, private to each

individual, and perhaps very different from creature to creature. At the same time, we believe there is a real universe that contains us all, and whose true face is the one *we* see. We set ourselves up as the final authority on how things are. And perhaps this is justified because we seem to be smarter than dogs or lizards or ants.

“But there’s a more subtle problem created by our self-consciousness,” she continued. “To even wonder about the experience of other creatures—or other people—we must have this sense of an inner world of experience, as opposed to the outer world of the physical universe. And to have this sense of an inner world we must be aware of our own presence within the outer world. I don’t mean our existence as *part* of the physical universe. I’m not talking about our bodies, which are objects like other material things in the physical world. I mean instead our life as subjects: as beings who can have experience. *Someone* rather than *something*, you see.”

“Oh. I do see, I think,” said Alisha. “I’m aware of my experience as something inner, and therefore of my own presence as someone having that experience?”

“Exactly,” her teacher confirmed.

“But then what happens if I’m not particularly thinking about all this—about being someone who has experience? If I’m just aware of the chair there, for instance? Is that still experience or self-consciousness? Is it the inner world or the outer world I’m aware of then? Oh—and here’s another question. Does that mean there’s an inner chair and an outer chair?”

“I’m so glad you brought this up, Alisha. You’re very perceptive. But, as you are perhaps beginning to suspect, the whole business is rather tricky and confusing. So much so, in fact, that it’s very difficult even to grasp what the problem is, let alone a solution. These questions are so far upstream for us that we can’t get a proper handle on them. They have kept philosophers going for hundreds of years. Don’t expect to get it all clear in your mind this afternoon! But if you do, please let me know how it all turns out! In the meantime, here goes my feeble attempt to answer your questions:

“Self-consciousness gives us the idea of an inner world of experience, right? But then, we have to ask, what is that? You’re looking a little baffled, so let me put it a different way. What is the relationship between the inner world and the outer one, which we call real, and which seems to be made of atoms and energy on one level, of chairs and rocks and all sorts of tangible things, on another? It seems solid, made of matter that continues to exist on its own, regardless of how or whether we experience it at a given moment. You wake up in the morning in the same body, in the same house, as part of the same family, on the same planet, and so forth, day after day.”

“Well, maybe you do, Miss Savanti, but I seem to find myself in all sorts of strange places lately—and not always in my own body!”

“But you recognize that as taking place within a dream—merely an experience, in other words, and not happening in the outer world. You have the *experience* of waking up in a strange world, while in *reality* you are asleep. And in reality you wake up as yourself, in a real world where you go to school, have me for your teacher and so forth. Right?”

“Well, I suppose I realize that right now, but I’m not always so sure,” Alisha confessed. “Dreams can seem very real, can’t they?”

“Yes, of course. Most experience does normally seem real, for a good reason. If we are creatures living in a real world—I mean one that can affect us physically, even

lethally—then it has to be important that we be able to monitor that world and consider it real. Awareness is our way to track the world, so we don't usually think of it as experience at all. Rather, the world is just there. And even what is happening in your dream may seem just there to you when you aren't thinking of it as a dream."

"Yeah. When I don't realize it's a dream, I think it's all really happening. Funny thing is, lately I have been realizing I'm dreaming right in the middle of the dream. As soon as I think to myself *this is only a dream*, I can wake up if I want to."

"That's great, Alisha. That's called lucid dreaming—because in the dream you know you are dreaming. Now, in a way this lucidity can happen even during your waking experience. This happens naturally when you are self-conscious, when you associate your experience with yourself or your body rather than with something happening out there in the world. When your ears are ringing, for instance, you somehow know that's in your ear and not a bell somewhere in the distance. An experience like that calls attention to your own presence and the difference between subjective and objective—between what you bring to the table and what the world brings to the table to be negotiated as experience. Have you ever suddenly been startled by something that looked, out of the corner of your eye, like a big ugly spider, only to realize it was really just a clump of dust? Or a snake that turned out to be a rope? You could say you woke up from the illusion of seeing a spider or a snake, realizing the appearance was something your mind made had up. *Something* is there, of course, but you made the interpretation of how to see it. Do you get the drift? Like everyone, most of the time you probably assume that you are simply witnessing real things going on around you in the real world. You aren't particularly aware of your own involvement in creating your experience. This is normal. In the lucid dream, however, you realize that you are there dreaming the dream, and you call the appearance of reality into question. With self-consciousness you can do the same thing in a waking state. In the dream you are able to change your experience by waking up. And in self-consciousness you wake up from the compulsion to consider events as real, or as literally the way you see them. This changes your experience, because your interpretation is different, and your relationship to experience is different. It makes you question things. You realize your perceptions are to some extent your own responsibility. And this gives you some freedom to change your behavior if you wish to. Do you follow so far?"

"I believe so," Alisha affirmed. "You're saying that being aware of ourselves gives us the power to question whether something we experience is real, or really the way we see it. But I still want to know whether insects have any kind of experience at all. I doubt they are self-conscious."

"I doubt it too. Perhaps whales and chimpanzees do, however, and elephants. But your question brings us directly to the subtle point I have been heading towards. You see, in order to have the *idea* of experience, we must be self-aware. So what do we mean when talking about the "experience" of creatures that are not self-aware? It's a word in our vocabulary, so to speak, but not in theirs. So it's a bit of a paradox. We can imagine that, like us, they look through some kind of window at the world, so to speak, but that they are aware only of the world seen through it and not of the window itself. We can talk about the window because that's in our range of concepts—even part of what we see through our own window. But for the creature itself, there is no such thing as experience, no window. There is only the world. And this separates us from it. It might be possible

to communicate with a porpoise or an ape about its feelings, beliefs or perceptions, if a common language could be established. But not with a lizard, I should think, much less an insect.”

“Miss Savanti, I have another question. Isn’t it still the real world we see through the window even when we think of our experience as something inner? I mean, we haven’t made it up, have we?”

“What do you say about that, Alisha? I’ve been doing an awful lot of talking. You tell me what you think.”

“Well, to use your window metaphor, it seems most everything that appears in the window you were talking about could also appear in a movie. The camera might also film the window frame and the wall in which the window is set, and the room to which the wall belongs, and so on. A movie could be a documentary, but it could also be an invention, a completely made-up story. It films real actors and scenery to tell a story that could be imaginary. There might be even some things in the movie that don’t seem real at all. Like in those films that are part animation and part photography, where you see a cartoon character talking with a real actor. Or even better: like computer animation and special effects. It’s *modified* reality. Does that make sense?”

“It makes a lot of sense, Alisha. As long as we don’t take our metaphors too literally. Things like pain, hallucinations, dreams, and even feelings are experiences many people would call subjective, because they don’t seem to be part of the view through the window. But the window is a visual metaphor. My finger is an object in the world, to be sure, which I can see through the window. But what of the *pain* I experience in the finger if it gets caught in the car door? Is it something one would experience as through a window or as in a movie? I could say ‘window’, because the pain belongs to the finger seen in the window, right? But I could also say ‘movie’, because there are pains and other sensations that don’t seem to be caused by anything visible in the window. I could say ‘both’ because, as you suggested, it could be an invention that also refers to something real. And I could say ‘neither’, simply because a movie is a visual experience and cannot convey tactile sensations. And what about thoughts, how should we think of them? Some people who had an arm or leg amputated continue to feel pain in the missing limb. Thoughts might be like this too. You can close your eyes and have a mental image of something you could or did actually see. But you are not literally seeing it, it is an act of imagination. And what about afterimages. You know: when you stare at a bright colored light bulb, for example, and then close your eyes?”

“Yeah, I’ve done that,” Alisha acknowledged. “You see a patch of the opposite color against a reversed background. Kind of like a color negative.”

“Subjective, objective, or both?” her teacher continued. “It depends on how you look at it—to again use the visual metaphor. I can look at something in a movie sort of way or in a window sort of way. Perhaps in both ways together! We could go on and on—and philosophers do—about the right way to classify experience and understand its nature. But the more serious problem is that, once we are burdened with the choice, we have already crossed a threshold from which there is no turning back. Experiences like afterimages and hallucinations show us that there is more going on than just a transparent window on the world. They are somehow produced by the nervous system, but so is all our experience. So, then we wonder in what sense *all* experience is an invention of the

nervous system—including everything seen through the window. Which brings us to your question: is there an inner and an outer chair? Well, what do you think, Alisha?”

She reflected a long while before replying.

“I’m not too sure,” Alisha said tentatively. “I can think of a lot more questions than answers. Like, if outer chairs are made of atoms, then what are inner chairs made of? And: does the inner chair actually look like the outer chair? And, if so, why? But what really gets me about all this is what you were just saying. Maybe what we see is our own production, complete with special effects, like a virtual reality. But then what lies out there—where the real outer chairs are supposed to be? What is the movie a movie *of*? What does it *really* look like? And who is watching this movie or virtual reality in the first place? And then there’s my original question: could another person or creature have an entirely different experience? I seem to go around in circles with all these questions. Nothing seems to be getting clearer. But I think maybe inner chairs are not such a good idea, and maybe metaphors are more trouble than they’re worth.”

“My dear, you astound me,” said her teacher fondly. “I can see you are thinking very deeply about all this. And I’m glad you see that we are at the mercy of our metaphors. You’re taking a very practical approach, and I agree with it in spirit at least. Well, I shall try to give a definite answer to at least one of these questions. You asked: who is watching the inner movie, or who is looking through the window? To which my answer is short, but perhaps misleading: no one! And I say this must be the answer because the alternative leads to absurdity. If we do suppose there is an inner observer watching the movie of experience, then wouldn’t this inner person also have an inner screen or window inside them, with yet someone else watching that? The problem would be unending—what we call an infinite regression. You are quite right to point out that the fault is built into the metaphor, which comes from dealing with the physical world, in which there are such things as inside and outside, windows, and movie screen to watch. If we grant that there is an inner realm, then perhaps it is inevitable to conclude that we are trapped within it. Which is absurdly contrary to our daily sense of living in the real world. The very idea of ‘inside’ is a mockery if you can’t go out! On the other hand, if we deny there is an inside—as some philosophers and even psychologists have done—then this also seems absurdly contrary to our daily experience of pains, thoughts, feelings, dreams, imagination, etc.—our subjective consciousness, in short. It’s a quandary.”

“So, what is the answer, then?” Alisha persisted. “If no one is watching the inner movie, or if there is no inner movie, then what is this thing we call experience?”

“Yes, that is the question, all right. What is experience and how does it relate to reality? I shouldn’t like to call experience a ‘thing’, however. We’ve discussed several metaphors for trying to grasp what it is, but they all have their limitations. In particular, they all come from our experience of objects and relations in the real world. Trying to apply them to the ‘inner realm’ gets us into trouble. Even the idea of inner is going too far, it seems. It appears that every time we open our mouths to speak about consciousness, something wrong or misleading comes out. Perhaps the best thing is to keep quiet. Very difficult for someone like me, I have to admit. And apparently for you too, my friend. But, for the time being, perhaps the best choice. Just as well, because I see it’s getting late. In fact, you missed your bus a long while ago. Can I give you a lift home? We could continue this discussion tomorrow if you like.”

“Sure. Thanks, Miss Savanti. I guess it’s not like these problems are going to disappear over night. Although with my dreams you never know!”

Alisha went to sleep gladly that night, hoping her dreams might indeed shed further light on the mystery of consciousness. She didn’t have long to wait...

“Oh, you again!” she exclaimed. Zed was standing on a nearby knoll of grass—or something that looked a lot like ordinary grass, except that it was bright red instead of green. He was whistling a tune to himself with that unnerving air of self-satisfaction that so irritated her. He showed no sign of noticing her, as he stared up into the sky, which was an odd color she couldn’t quite name. *Back to his usual smugness*, she thought. She had hoped his recent harrowing experiences might have instilled a little humility within this... whatever he was. *Dream companion*. Yes, of course. *This is a dream*, she thought. She remembered her intention before falling asleep. She’d come here with a question. Something about reality and experience, she struggled to recall. Zed waved to her casually, as though it were perfectly natural to run into her here—wherever this was. Undistracted, he continued his gaze into the heavens.

“Isn’t it magnificent!” he bellowed. “It’s great to be alive! Even in an un-world!” His voice sounded strange, as though he had said everything backwards and upside down, but she had understood just the same.

“A what?” she shouted back, to make sure he would hear. As a matter of fact, her voice sounded strange too, as though she were speaking pig latin underwater. A torrent of other questions flooded her thoughts. How had he escaped the clutches of the Formes? How did he find her—or was it she who had found him? What was either of them doing here? But then she remembered again that this was a dream, and in dreams she could make up anything she liked. It didn’t have to be consistent. She could invent an escape for him later. But right now she wanted to know what an un-world might be. It had an ominous tone to it. She suspected the unusual colors and sounds of this place might have something to do with it. She felt she might be about to discover an answer to her question, the reason she had come here. Just then Alisha recognized the tune he had been whistling: Somewhere Under the Rainbow—although that didn’t seem quite right.

“Hey Zed. What’s an un-world?” she shouted. “And what are you staring at?”

Climbing the hill toward him, she noticed that instead of tiring with the rather steep ascent, she was actually catching her breath and feeling more invigorated.

“Isn’t it just devastatingly boring and ugly!” repeated Zed. But hadn’t he said magnificent before?

“What, for Pete’s sake?” Alisha demanded to know.

“*That*,” Zed replied calmly, pointing again to the cloudless sky of a rather unnamable hue. She had the impression she was watching a sunset on another planet, where the evening was already darkening, yet the blue part of the sky seemed a kind of eerie yellow, while the orange of sunset seemed more like a purple. Not quite any yellow or purple she knew.

“The sky, Zed?” she asked, a little perplexed.

“No, silly. The un-sky! Don’t you see—over there—the un-rainbow?” Alisha looked more closely in the direction he pointed, opposite the un-sunset. There, above the horizon, she could discern something stretching like an inverted arch over distant hills, cutting through the unnamable colors of the un-sky. She would have liked to call it a

rainbow. But it was upside down and had absolutely no color at all! The un-rainbow consisted of drab bands of grey, blending one into the other.

“Oh my goodness. I do see it—whatever it is!” exclaimed Alisha.

“Your goodness, my eye. I am quite certain that here goodness is badness, and vice-versa,” he commented cryptically.

During the few moments that Alisha had been standing there idle, catching her breath beside him at the top of the hill, she had begun to feel progressively more tired, heavier, and *out* of breath. To the point she could scarcely speak.

“Zed,” she gasped, “what’s going on here? This place is weird. I can hardly breathe. I feel so tired I may faint.”

“Quick! You must run again. The faster the better. Running and hard work—it’s the only way to rest here.” He began jogging in place with her. “But it shouldn’t be called hard, I suppose. What’s hard here is to relax and keep still. I should think sleeping would be the most exhausting of all.”

The faster Alisha moved her legs in place, the better she felt. She had an irresistible urge to sprint full tilt down the hillside. She vaguely recalled that this would normally be a terrifyingly dangerous experience. She had broken an arm once riding her bicycle too fast down a steep hill. But everything was different here—backwards. Following the impulse, instead of fear or even thrill, the faster she ran downhill the more she began to feel unaccountably bored. Finally, when it seemed her legs could carry her no faster, Alisha dozed off in a pleasant slumber at full tilt, eyes closed, legs flailing away. Needless to say, she had an inevitable and rather serious tumble, rolling over and over toward the bottom.

Zed took his time coming to her aid. After all, it *was* an un-emergency. “Oh, my, isn’t this jolly. But I don’t think this is such a good place for you, on second thought,” he said. “You haven’t adapted to un-ways. Let’s check out the damage, old girl.” There was an unusual note of kindness in his voice, and she wondered if he was just being contrary in an un-world sort of way. Alisha found herself amused by the sight of her dangling leg, which could scarcely move. The ankle was beginning to swell and turn all sorts of indescribable colors. Laughing uncontrollably, she seemed to take great delight in the bloody abrasions on her arms and legs, which felt very pleasant indeed. A bad cut on one knee was beginning to ooze a greenish liquid.

“Oh that was fun! I feel so fine,” exclaimed Alisha, still laughing and giddy. The throbbing of her swollen ankle felt wonderful indeed, and the cuts and scratches produced a pleasant sensation like being tickled with a feather duster.

“This just won’t do—no, not at all,” Zed scolded. “We have to get you out of here before you die of pleasure. You see, everything is wired up backwards here. Pain feels good. Things that are good for you feel bad. Even the colors are backwards. It’s very dangerous for a normal person. Not that I’d accuse you of being normal, of course. But I mean someone who hasn’t adapted to the inverted ways of this place. Perhaps the locals—if there are any—have learned to live with this arrangement, but it seems to be rather hard on newcomers.” He was gently daubing some of her cuts to staunch the bleeding, and had tightly wrapped her ankle in some cloth gallantly torn from his shirt. Alisha looked up at him dazed, but with something she dimly recognized as fondness or gratitude—or was it the opposite?

“Thanks, Zed. You aren’t so good after all... oh, excuse me. I mean bad. She smiled weakly. “Sorry about the shirt.”

“Oh, not to worry, it was only my favorite. It was fun tearing it up. Good, bad, what’s the difference? That’s the trouble with this place—until you get your bearings, I guess. After enough time, I should think everything here would come to seem normal again, so that things that are bad for us would feel bad like they should. And good things feel good. Assuming, of course, it’s possible to adapt to such drastic conditions. Perhaps humans can, but I read once of an experiment performed on goldfish. You see, the neural pathways from their eyes were surgically inverted, so they thought up was down...”

She listened to him babble for a while in her dreamy state. He seemed further and further away. And then everything went gradually silent and dark, as though she were drifting off to sleep—except, of course, that she was actually waking up.

That morning Alicia made a point of going over the dream, trying to remember details, jotting down notes. One thing seemed clear: the dream had been about the relationship between experience and reality, just as she had wanted. It had been a visit to a place where there was a different relationship than the one she took for granted. It was like visiting a country in whose language words mean the opposite of what they mean in your own. She remembered Zed saying something about adapting. Yes, that must be it! If you got used to the scrambled labels for things, all the words would have to assume their “real” meanings again, because they still refer to things in the real world! You simply couldn’t survive if injuries to your body felt good instead of bad. Which meant an un-world is impossible, because no one could live there. Life could not originate and evolve, unless it had some way to know what was healthy for it and what was not. And so, whatever ‘words’ were used for those things in the ‘vocabulary’ of experience, they would still have to mean the things they are supposed to mean. A sprained ankle would *have* to be painful, and the pain would *have* to hurt. She felt a great revelation had come to her in the un-land, as she excitedly wrote down the last of her notes. She could hardly wait until after school to share her discoveries with Miss Savanti.

Chapter Seven: The Land of Zombies

Miss Savanti was speaking with another student when Alisha entered the classroom after school, so she waited in the hallway, brimming with excitement. The other student was her friend, Sharon, who wasn't a part of the philosophy clique. And Sharon, she knew, hadn't gotten a very good score on the last history exam—probably because of Stewart, she grumbled to herself. Sharon was crazy about him, but Stewart would hardly give the time of day to Sharon. She glanced at the clock in the hallway. Ten minutes had passed, so she peeked in the door to see what was taking so long. Her friend appeared to be sobbing, and Miss Savanti offered her a tissue and a comforting hand upon the shoulder. Uh oh, heavy stuff, thought Alisha. This could take a while. She was glad that Sharon could get her boy troubles off her chest at last, but couldn't help feeling impatient. Just then who should come whistling down the hall but Stewart. Perhaps she should have a word with him on Sharon's behalf? He seemed so stuck up at times. It pained Alisha to see her friend in distress.

"Hey, Stewart," she signaled tentatively to get his attention. He stood with his back to her, rummaging through his locker, and continuing to whistle as though he hadn't noticed. She walked up to him, a little piqued, and said his name more loudly. He turned to face her with a smug grin. But it wasn't Stewart! It wasn't any of the students she knew, even if he did look a lot like Stewart from behind. But she did know this person. It was Zed! Younger—her age now—but decidedly him.

"What are *you* doing here?" she said with some irritation and a note of alarm. This meant she was still dreaming and hadn't really waked up and wasn't actually going to continue the chat with Miss Savanti she had been so anxiously looking forward to. It was going to be another dream adventure. Two in one night!

"Oh, I just dropped by to see how the un-world turns—you know, the latest developments in the land of teen un-romance," he sneered.

"How can you be so snotty?" she scolded, angry now but also perplexed. "You were so kind to me in the un-world. I don't get it. One minute you're a gentleman and the next minute a—I don't know what!"

"Well, perhaps the gentleman was the un-Zed. Or perhaps it just pays to be flexible. In any case, this is *your* dream, Alisha. I'm whatever you need me to be. At your service. Now that's true chivalry!" he chortled.

"I'm sure I don't need anybody to be so conceited, thank you!" she huffed.

"Don't be too sure," he said flatly. "Remember: things are not always what they seem. "Take in there, for example," motioning to Miss Savanti's room. "You see a friend with tears in her eyes and you feel sorry for her because you assume particular things about the situation, and what she's feeling. And you see an older woman apparently expressing concern. You assume she is feeling compassion or sympathy. But someone with a more suspicious mind might catch a different impression. Maybe your friend is putting on a nice little show because she's hoping not to fail her class. Maybe your teacher is actually a lesbian. Come to think of it, she's your teacher too, isn't she?" he added, not without insinuation.

"Stop this, Zed! That's absurd. I know them both. And I know you—unfortunately!"

“Well, well,” Zed continued, apparently amused. “Aren’t you the smug one, to know so much? You experience to be true what you think you know. But isn’t this dream about just that? The uncertain relationship between experience and reality? Reality is what is actually so, right? And what is knowledge but what you believe is actually so?” he continued without giving her time to reply. “You judge by appearances and conclude you know what is really going on. It’s all rather pat, I’d say. Whether you’re right or wrong, it’s all interpretation. Isn’t that so: just your interpretation of things?”

There was a moment of silence in which Alisha eyed him suspiciously, weighing his ideas about experience, but still angry about his ridiculous insinuations and the inconvenience of his intrusion. It had taken a huge effort of self-control to allow him to go on. Just as she was beginning to calm down, he resumed.

“But as a matter of fact, the reason I dropped by was not to upset your tidy little personal network. No, actually I bring worse news by far. You see, there’s something strangely disturbing going on in your whole school. In the whole world, in fact. But perhaps it’s not so strange after all, just so ordinary that it seems normal.”

“What in the world are you going on about? Get to the point, Zed, before I lose what little’s left of my patience,” she said sharply.

“All right. You asked for it. It’s about these *people*—your friends, your teachers, even your parents. Everybody about whose feelings you are so sentimentally concerned. Yours truly has come to tell you these so-called people do not actually experience anything at all! They don’t *have* feelings, you see, or any kind of experience. They don’t see colors or hear sounds or taste flavors. Oh, they certainly *behave* as though they do. They do put on a good show. They react to everything in just the appropriate ways, making all the right distinctions. But inside it’s completely dark, blank—zilch! No movie. They go through all the motions, process all the information correctly, but completely without consciousness. If they were human you would call them zombies, people who had lost their souls. But they’re not human, you see. They’re machines that have been cleverly programmed, to the last detail, to imitate human behavior. And that they do perfectly, fooling everyone around them, even the keenest eye—and certainly you! After all, what would a trained eye look for? What does consciousness look like, except a way of behaving? It’s an understandable mistake.”

“I’m sure I don’t know,” countered Alisha coolly. “And I’m equally sure this is all nonsense. I know the people in my life. At any rate I know the real ones, and I can assure you they’re not robots or—what did you say—zombies? Though I never know what I might run into in these dreams, I’ll confess.”

“Maybe they are and maybe they’re not. The point is: how can you tell the difference? Perhaps I can offer a more convincing argument. Come take a walk with me. I have something to show you.”

Resigned to follow this to its conclusion, Alisha sighed: “All right. But only because I know this is a dream and I have some time to kill.” Zed led her down the hallway to a closed door between two classrooms. She hesitated there a moment.

“I don’t remember any door being here. What’s in there?” she demanded to know.

“You’ll see,” said Zed sinisterly, as he opened the door and ushered her into the dark. He flicked on a dim light overhead. There, in the middle of an otherwise empty

room, sat *she*—the other Alisha. Or so it appeared. The girl sat immobile, feet together, hands folded in the lap. Her eyes were closed as though in deep meditation. She didn't seem to breathe.

"What is this clone thing doing here? Or is this one of your holograms?" demanded Alisha sharply.

"It's neither clone nor hologram. I know very well, since I made it myself. The technology is a little further advanced than you folks presently have on this planet. But you're not so far behind," he chuckled. "Go ahead, see for yourself. It's no hologram. Touch her. She's real."

Alisha tentatively extended her hand to make contact with the seated girl's bare arm. The girl's eyes flashed open in surprise, and a smile came to her lips. "Oh, hello," she said sweetly. And then, after a moment: "Don't I know you? You look so familiar," she said with a puzzled expression. "I don't understand..."

"I don't either," cut in Alisha, "but I'm going to get to the bottom of this. There are too many of us running around. I don't know who or what you are, but... Forgive me," she interrupted herself. "I don't mean to upset you." A worried expression had come over the girl's innocent expression. Alisha turned to Zed. "Okay. What does this prove? Nothing, I'd say."

"Patience, my friend. We're coming to it," said Zed. "She really is a machine, as you will shortly see for yourself." He reached into his pocket, withdrawing something resembling a TV remote control. He pointed it in the girl's direction, pushed a button, and instantly she resumed the posture of meditation.

"Sorry, Zed. That still doesn't prove anything. At least not to me. She could be acting, for all I know."

"But this serves my point," Zed insisted. "Your friends could be acting too. Your teacher, your mother and father... the whole world could just be going through the motions."

"But an actor is still a human being with her own feelings, even if she pretends to be someone else," countered Alisha. "This could be settled quickly enough by a jab with a needle, you know. She couldn't keep up an act through that, could she? But you're counting on the fact that I wouldn't do that—because I'm not a wicked hologram without feelings!"

"*Du calme, ma cherie*," urged Zed in his best French accent. "There is no need. When activated, she's programmed to react to that sort of treatment just as you would yourself. You would hardly prove your point, though you could prove mine. Deactivated, she—or rather it—is inert as any piece of machinery. Go ahead, jab your needle if you have one! Then come look at this. Examine closely." He bent over the girl, pressing a point on her forehead. A small door flipped open just above the eyes where he had pressed, revealing a dense and intricate maze of tiny circuits and chips. "There. You see? Now *that's* a machine!" he said triumphantly.

Alisha gasped at the sight, putting her hand to her own forehead in disbelief. Collecting herself, she regrouped undaunted:

"This still doesn't prove anything about... about..."

"Consciousness?" Zed offered.

“Yes!” Alisha continued, confident she might regain some ground. “Maybe I can’t prove that human beings are anything but zombies, as you put it. But you can’t prove that robots don’t feel things!”

“Very good, my dear. I see we are finally on the same wavelength. You can’t prove to me that you have experience, and I can’t prove to you that my robot doesn’t. So I suppose it’s a draw.”

“I don’t have to prove anything to you, Z.” I certainly don’t have to prove I’m conscious,” she declared, with the faint beginning of a smile. “It’s quite enough for me to know it myself.”

“Yes, certainly. I’m sure it would be enough,” he hinted vaguely. “But we’re not finished yet. I have one more trick up my virtual sleeve. Suppose I could prove to you that you yourself are *not* conscious?”

“How in the world could you do that? You’re a good talker, Zed. But no one is going to talk me into believing I’m a Zombie! I may be dreaming, but I’m still present having the experience of dreaming, aren’t I? You may as well try to convince me I don’t exist!”

“Another story, my dear. We’ll come to that soon enough,” continued Zed, darkly hinting at something that she wasn’t sure she wanted to know about. “But we mustn’t get ahead of ourselves. Suppose I could prove to you that you could carry on just as you are right now, but entirely without what you call experience? Without a shred of consciousness. No mov-ie.” He enunciated each syllable with a malicious grin.

“I know very well you can’t do that, so by all means—go ahead. Try!” she said defiantly.

“Permit me then,” he continued politely. Alisha had to admit she felt a twinge of apprehension. But, just feeling that reassured her that she must be right.

“Are you aware of the function of the Reticular Activating System in the primate brain? Or the claustrum?” he began.

“The what?” quipped Alisha.

“These are, like, consciousness switches in the brain,” continued Zed. The important thing is: all the same information from the senses goes to the rest of the brain whether this switch is turned on or off. The only difference is that, if it’s ‘on’ you are conscious, and if it’s ‘off’ you are not. In short, you could carry on just as you are now and have no conscious awareness at all. Q.E.D.”

“But I *am* aware!” Alisha protested.

“Yes, yes. Of course. But that’s because your switch is turned on. It could just as well be turned off, you know, just by a little stimulation in the right place. And it wouldn’t make a bit of difference to your performance. You would continue arguing with me just as you are now, but with no awareness of any of this. Now what is the difference between that and a zombie, I ask you?”

“You haven’t proven anything, Zed, and I don’t really believe you. I’m still conscious, as you can see. Or perhaps you can’t see. I believe I am, at any rate, which seems to come to the same thing. And I don’t buy your story about the ridiculous action system, or the claustrophobia or whatever you called it. Either you made that up or you’re just plain wrong!”

“Bravo, my dear! You are putting up a good show. But now for the piece de resistance. If you are so sure of yourself, would you be willing to submit to a little experiment?”

“What sort of experiment?” she asked warily.

“It so happens I’ve invented a little gadget I call a Deactivator. In effect, it flips the switch of consciousness ‘off’. Then you get to experience—so to speak—what it’s like to have no experience at all! What it’s like to be a robot or a zombie. Or, maybe, to be dead. Or maybe to have never been born? But of course, my point is precisely that it’s not like anything at all. Which certainly means it won’t hurt a bit. You won’t feel a thing!” he said with mock reassurance. “It also means you won’t have any conscious memory of it, although perhaps such a memory could be retrieved through hypnosis or...”

“This is preposterous,” declared Alisha, trotting out a word she’d picked up recently. “This joke’s gone far enough, Zed. You don’t have any such invention, because nothing like that is even possible.”

“Oh, no? You’ve heard of blindsight, haven’t you?” said Zed.

It seemed clear that Zed was stalling. She thought she had already called his bluff. She couldn’t understand why he was dragging this out, but resolved to play along to see where this was going. “What, pray tell, is that?”

“It’s a well-documented phenomenon. People who have suffered a certain type of brain damage claim to be blind in part of their visual field. Yet they can answer questions fairly accurately about what they *haven’t* seen there. In other words, they’re partial zombies! Why, then, couldn’t they be total zombies? It would just mean having a few more connections unplugged in their brain.”

Alisha was beginning to buckle under Zed’s onslaught. She wished this would finish. She hated to lose an argument, but more than that she feared he could be right. Just then Zed pulled from his pocket another device, a little larger than the remote he had used on the hapless girl. He waved it in front of her menacingly, and she shrank back, partly in fear but partly in disgust at her own wavering certainty.

“You don’t scare me,” she bluffed. “And besides, you *wouldn’t*.”

“You mean, not without your permission? But don’t you want to find out? It won’t hurt, you know. It won’t *anything*!” he chortled sinisterly. “It’s completely safe and reversible. You won’t even know anything’s happened.”

“Well, then what’s the point?” she rallied cleverly.

“The point is that we’re being videotaped at this very moment.” He indicated a small hole in the ceiling she hadn’t noticed before. “After deactivation, you won’t remember a thing, but it will all have been recorded. After I’ve reactivated you, you’ll see with your own eyes that you continued all the while to play your normal part, as any good zombie would. And you’ll know beyond a doubt that you simply weren’t conscious of anything during that period. How about it?”

“Couldn’t you accomplish the same thing with hypnosis or some drug that makes you forget?” she asked coolly. Now it was Alisha who was stalling. “I saw one of those shows once, where the hypnotist made somebody from the audience bark and carry on like a dog, and afterwards they didn’t remember.”

“Yes, I suppose I could, now that you mention it. But I have a penchant for technology, you see. So how’s about it, Alisha... wanna try your luck?” he leered,

closing in on her, brandishing the device. She shrank back horrified, and the last thing she felt was a pang of fear. Then everything went blank.

That afternoon, after school, she hesitated a moment approaching the door to Miss Savanti's classroom. Just in case there might be someone named Sharon there already. But there wasn't, and she greeted her teacher with relief. *Thank God it's really you.* Even so, she still felt unsettled. She had deliberately passed by the door to the mysterious room, where she either had or hadn't had her consciousness switched off. She had tried the handle and found it locked.

"What's the door between Mr. Albrecht's room and Miss Jensen's?" she asked after their greetings.

"You know, I've never been in there. I suppose the janitor has the key. Storage, I guess. Why do you ask?"

"I entered it in my dream last night."

Alisha recounted the two dreams. How hopeful she'd been after the first, and how disconcerted by the other. "The part about the Deactivator really disturbs me. I was so sure I was right, and that he was just bluffing... and then..." She gestured hopelessness. "What do you think, Miss Savanti? Was I deactivated? Can zombies really exist? Could a robot ever feel?"

"First I want to hear what you think, Alisha. If you reflect carefully about these dreams, what have you learned from them? But before you answer, I would like to point something out. You could not really have been deactivated, as you call it, because it was only a dream, right? And the dream expresses your speculation about these questions. It can reflect only what you yourself already know or believe, or what you yourself are doubtful about. For example, you must have read or heard something about the blindsight mentioned in the dream—because there actually is such a phenomenon. And there actually are parts of the brain called the Reticular Activating System and the claustrum, which I suspect you may have read about. But I don't want to say more about that until you tell me. Deep down, what's your intuition about all this? What makes sense to you?"

Alisha drew a deep breath and gathered her forces.

"Well. I saw something clearly in the first dream. I saw that there is a connection between the particular feel of some experience and whatever it's a response to. When you're injured, for example, the sensation in your body can't just have any old flavor. It has to feel a certain way. It might be like that with smells and tastes too. Things that are good for you will usually taste and smell good. I'm less sure about colors or sounds, or the way things look, though. My guess is that even colors can only look the way they do. I don't think you could interchange them like in the dream. And I don't think you could make up new ones that nobody else sees. Not unless your eyes are sensitive to radio waves, or something like that. I don't see how to prove any of this, however."

"Very good. Now what about the second dream?" her teacher prompted.

"I have more trouble with this one, though it's definitely related to the first. In the first dream, I'm wondering about experience as a kind of inner language. My question there is whether the words—so to speak—could mean just any old thing. And the answer is definitely no. Pain has to hurt and trees have to look green. You can't have people seeing trees as blue or some imaginary color, any more than smashing your thumb can

feel good. How else to put it? Things feel like they mean. Only I can't really say what colors mean. And I guess I'm not too sure about whether a person—let alone a robot—even has to *have* feelings, or colors, or any experience at all. In the second dream, Zed could be right. It's like asking whether you really need words at all. I think we need them to communicate with other people. But who are we communicating with inside our own minds? And then, some people are quiet, aren't they? Some are even mute. They seem to manage okay. People can live without words, so maybe they can live without consciousness. I don't really know."

"That's a good go at it, Alisha. That's a good deal more forthright an analysis than I've seen from any philosopher I've read. Now let me ask you this. Suppose it really makes no difference to their conduct whether a person is conscious or not. Whether they have an inner movie or just a blank screen. If it really made no difference to your life in the world whether the switch in the dream is 'on' or 'off', then why would it ever be 'on'? Why would there even be a switch? Wouldn't it be simpler and more economical just to have the screen permanently blank, the house dark? Movies are expensive to make, and so must be consciousness. Why would nature indulge such waste? It seems to be a fact of your own experience that you are conscious. Then at least *your* movie is on. Why? Mustn't it serve some purpose?"

Alisha considered this thoughtfully. "I think I get your point. If consciousness exists, then it must help us in some way. And if that's true, then somebody couldn't really behave in exactly all the same ways as a conscious person unless they were also conscious. A zombie just couldn't cut the mustard the same as a real person. Yes, that's it! Oh, that Zed! He's so sly. I'll wring his devious neck! And there can't really be any such thing as zombies, then. They are supposed to be able to behave exactly as normal conscious people, except that they're blank inside—no consciousness. But that just isn't possible if consciousness does something essential. Come to think, it seems more like consciousness does a lot. I guess we can tie our shoelaces without much attention. Maybe some people can tie them in their sleep. But I've never heard of anybody tying their shoelaces in a coma!"

"That's an excellent point, Alisha, well taken. Some philosophers have actually argued—foolishly, I think—that consciousness serves no purpose. One wonders sometimes where they get their ideas. But that argument seems to rest—like Zed's—on the assumption that a person could produce all the same behavior without it. I suspect such an assumption is linked with the other part of the problem: robots. What do you think?"

"Oh, yeah, thanks for reminding me," said Alisha, pleased with herself so far. "Well, let's see. A robot is a machine, and machines are designed by people to do particular tasks. Like, make something or do something faster than a person can. Maybe we could make a machine that does everything that a human does, and even better—an imitation person, right? Well, if it really did everything exactly as a human being, then I don't see why it wouldn't *be* a human being, Miss Savanti. If we admit that other people are conscious then the imitation person would be too."

"This brings us right to the crunch, Alisha. Some philosophers would argue that consciousness is precisely what makes the difference. According to them, a robot could never be a person, because people are alive and conscious while the robot is just a glorified machine, which they don't believe could be conscious."

“But if you couldn’t really tell the difference from the outside,” Alisha protested, “that could mean it was busy doing the kinds of things we do on the inside that we call consciousness. If it could tell the difference between colors, would that mean it experiences them?” Suddenly she felt doubts creeping in, realizing it was the same problem as with zombies: you couldn’t prove it one way or the other. “But I’m not sure about any of this, you know. It really is pretty hard to imagine a machine that has experiences, or a person who doesn’t.”

“I know, it’s hard to sort out,” her teacher confessed. “I didn’t want to interrupt the roll you were on. It seems we humans are in an awkward stage in our technological development. We’re mostly familiar only with relatively simple machines. For instance, we have instruments that can distinguish colors of light, but these devices are certainly not conscious. It makes no difference to them what the color of the light might be. That has significance to the human who uses the instrument, but not to the instrument itself. And, even the most powerful computer today probably isn’t as complex as a single living cell. A computer is still just another human instrument. It isn’t its own person, so to speak. It doesn’t have its own purposes—ones that are not just subroutines of some human problem-solving goal. Of course, it isn’t alive—but I’m not so sure that sentience has to mean being made out of protoplasm. Maybe it’s more a question of organization, like the blueprint we talked of earlier. Maybe if a machine was as complex as a human being, and organized in a similar way, it *would* be alive. Then it wouldn’t seem so strange if it was conscious too. While we can imagine building machines that are more and more complex, we still seem to be stuck imagining them as dumb as typewriters. We say to ourselves, in so many words: a machine is a machine is a machine! And we have no idea at what point, in this developing complexity, a machine could have purposes of its own and some kind of awareness. Just like we can’t say for certain at what point, in the panorama of living things, consciousness enters in. Do dogs feel pain? Almost certainly, I would say. How about ants? Well, probably not. Certainly not germs, even though you could say that germs have their own purposes. But if we are true to these rough guidelines, then a machine that was complex enough to be a genuine artificial human being would have to be conscious too. So how can we doubt that?”

“Probably just because it’s not natural,” conjectured Alisha, “not made of flesh and blood.”

“I’m sure you are right about that. We are rather prejudiced. Unfortunately, human beings have the nasty habit of considering even some of their own kind as less than human—as things without feelings or consciousness. I have to say it makes me pessimistic about the prospect of robot rights! But there is another aspect to this problem. We’re not yet very skilled at thinking clearly about complexity. How would we ascertain, for example, that an artificial hand can do everything a human hand does, or in the way that it does it? How do we define the actions of a hand, when the hand is part of a body with an almost infinitely complex brain? Our present thinking about this is so befuddled by language that we are likely to say a knitting machine does the very same action as a knitting person. Nothing could be further from the truth. We build machines to perform simple tasks for us, not to truly imitate organisms. We haven’t unraveled the complexity of even the simplest organism, and don’t yet know the limits to what can be deliberately constructed. Maybe it’s possible to build machines that build machines that build machines—as a way to ascend the ladder of complexity and descend the ladder of

scale. Yet at some point, this process will have to elude human control. The more a machine resembles an organism, the more it will act on its own behalf, pursuing its own goals rather than those of human engineers.

“Besides, nature did not produce a single species in isolation without producing a whole biosphere at the same time. *Homo sapiens* is supported by an evolving chain of being. It might be just our prejudice to think we are on top! In any case, it seems reasonable to question whether we could create an artificial life form off the drawing board, from blueprints known in advance. What *could* happen, intentionally or not, is that we might set in motion a process of artificial evolution, perhaps guided in some ways by people, just as people have bred plants and animals for centuries and now can guide development through genetics. New intelligent beings could evolve to swim, crawl, fly and walk the earth through an accelerated process resembling natural evolution. These would be artificial but genuine organisms, perhaps made of different and more robust materials than what we now call life. If they were complex enough, they might have artificial but genuine consciousness.” She sat back, satisfied with her monologue, searching Alisha’s face for signs of understanding or confusion. Alisha seemed in another world, her imagination revving with new possibilities. “Well, I guess that’s enough sermon for today, kid. What do you say we pack it in?”

“That’s pretty scary, Miss Savanti,” she commented thoughtfully, coming out of her reverie. “Do you think all that’s really possible, genetically engineered evolution? Or even scarier, I was imagining artificial mosquitoes that don’t swat so easily—big ones! And robot monsters wandering around in the streets. It doesn’t seem like such a good idea to me.”

“Nor to me, Alisha. But I have to admit I’m not an impartial judge. I’m fairly attached to things as they are and to my life as a human being and as a woman. Most of these grandiose plans have been thought up by men, after all, some of them barely older than you. Maybe they are more interested in artificial life because they can’t make real life out of their own bodies the way women can. But, who knows, human intelligence may prove significant, in the end, mainly as a springboard for even more complex life forms. Perhaps the human form is not the final pinnacle of evolution on this planet. After all, if a catastrophe hadn’t happened to the dinosaurs we wouldn’t be here now. If artificial life either spells or survives the end of human supremacy, well, who or what will be there to judge? But, speaking of catastrophes, if we don’t get you home soon, your mom will be waiting there to judge!”

Chapter Eight: National Consciousness Week

It was Friday night, and Alisha felt she'd had quite enough of dreams lately. That evening, after going out with some friends, she retired with a cup of herbal tea to her room. Sitting up in bed, she listened to music while writing down some thoughts about her dream episodes. One thing was still puzzling her: the business of the inner movie. She realized it was just a metaphor—a way of understanding the nature of experience. *In* experience we picture the world, but how can we picture experience, she wondered? The world is made of things, she reasoned, but experience is not another thing in the world, like a notebook, a bedspread, or a ball-point pen. It's more like a movie of those things. Or a computer simulation. But a movie is also an object in the world. The film, the screen, the computer monitor or whatever—and even the images themselves—are all physical. That's what's wrong with the metaphor, she thought! That's why the inner movie needs inner eyes to watch it! Experience cannot be pictured except as something physical. She wondered if another metaphor might work better, but couldn't think of one. At least it was clear that nowhere inside a brain would one find a consciousness screen, nor anyone to look at it. Nor could you find a thought anywhere in a brain, she mused. Not unless you were looking for something material, like brain cells. She closed her eyes to imagine what it would be like to be a tiny visitor to a brain, wandering around inside in search of a thought...

Alisha had just drifted into a cozy sleep when she was awakened suddenly by a loud clunk and the sound of a motor starting up. Something very heavy was slowly rolling nearby in the dark. Then an intensely bright light shone through a widening slit in a wall—she couldn't tell how far away. This horizontal aperture continued to widen, pouring brilliant light into the room through a huge floor-to-ceiling window. Then, another clunk as the motor and rolling sound stopped. She found herself in an enormous spherical room. Alisha squinted to see out the towering window, wishing she had her sunglasses. Everything through the window was blurry, and distorted like through a fisheye lens. She turned away to the opposite side of the room, where the light streaming through the window projected upon a giant screen curved against the back wall of the sphere. There, in truly epic panorama, the scene was vaguely recognizable, but upside down, in a long exaggerated perspective. It was like standing on your head in the front row of a big-screen cinema or an Imax. She tucked her head between her knees for a more “right-side up” look. In the foreground, an enormous hand held a huge pen and was writing in a gigantic notebook held by another huge hand. The background seemed somehow familiar, but the writing was too blurred and distorted to read. Just then a door she hadn't noticed opened and Alisha straightened up in time to see a man, dressed rather like a butler in tailcoats, pushing some buttons near the doorway. Another great rolling sound filled the room briefly then stopped. The image on the screen had dimmed. Turning toward the light again, she could see the round window had been narrowed by a giant camera-like shutter. The butler, or whatever, who didn't seem to notice her, checked his watch and turned to leave, so Alisha called out to get his attention. Unsurprised by her presence, he waited impatiently for her to join him at the doorway.

“Oh, you!” she exclaimed, recognizing Zed. “I should have known.”

“Perhaps you should have known, but you can’t have known yet,” he said cryptically. “First, we have to take the courier all the way to Central Processing. Follow me—and hurry, please. We have a very important date. It won’t do at all to fall behind.” He closed the door behind them as they entered the area behind the giant screen. There, above them on a series of catwalks, one above the next, people scurried to and fro with clipboard in one hand and a small measuring device in the other, which they pointed toward various places near them on the screen. One of them shouted down to them, “Ah there you are. Just in time”. He tore the sheet from his clipboard, rolled it into a tube, and placed it inside a small cylinder, which he dropped down a chute. It arrived with a thud in the wall beside them. Zed opened a little clear plastic door to remove the paper. “There you go, then,” shouted the man from above.

“What’s all this about, Zed?” Alisha asked. Zed was checking his watch again.

“Come with me. I’ll explain on the way.”

They left the area at the back of the giant sphere and made their way down a long series of corridors. Her friend the “butler” walked at a good clip, and she found herself losing breath trying to keep up and ask questions at the same time. He, on the other hand, whistled cheerfully.

“Okay, now will you tell me what’s going on here? Where are we, what are we doing? Where are you taking that paper, and,” she paused to catch her breath, “what’s the big hurry?”

“We are on our way, eventually, to Central Processing, as I said before. This courier simply updates the last one, and will in turn be updated by another coming along shortly behind us. Each one records raw data measured from the big screen you saw and other displays of a like nature. Since everything is constantly changing, it’s important to keep up to the moment,” Zed explained.

“Important to whom?” Alisha wanted to know. “What happens to all that data?”

“Why, important to *her*, my dear. And important to the national interest. It’s the job of the people on the scaffolding to take down the raw data, point by point, over the changing surface of the screen. From there it’s sent on to the substation we’re approaching now. But here we are, Alisha: Light Substation One.” He opened a door for her politely. Inside a vast room, hundreds of people milled about hurriedly. They rushed from one desk to another with papers in hand, while hundreds of others sat at the desks to receive them, classify them, do computations with calculators, and pass on new papers to other messengers. The din was unrelenting.

“I’ve never seen such a big office,” declared Alisha.

“Oh, this is nothing,” commented Zed. “Wait till you see Central Processing—the Big Apple. Our destination’s not all that far from here as the crow flies, but Central Processing is so vast, and most of the roads so winding, that we’ll have to take the express train to get to Reception.”

Zed led her through the maze of office workers and desks to a booth marked ‘Incoming’, with many mail tubes converging into it. He quickly consulted a pocket-sized book of tables he was carrying and found the right intake for their cylinder. Immediately it whooshed away. He beckoned her to follow again.

“We have a ten minute break before picking up the new courier and heading for the train. Let’s hit the cafeteria—my treat. You can catch your breath while I explain more of the Project to you.”

“The Project?” she asked as they made their way into the cafeteria, still at a brisk pace.

“National Consciousness Week. Haven’t you heard? No, I suppose you wouldn’t have. Everybody’s involved, though, even school children. We all have a part to play, an assigned task. The whole country cooperates night and day in a grand social experiment. It’s all very admirable, I suppose, but I have my doubts what will come of it.”

“What’s it supposed to achieve, this National Consciousness Week?” Alisha wanted to know.

“Why, *consciousness*, of course. I’ll explain more, but I’m afraid our break is over,” he said, wiping his mouth and checking his watch. “We must make haste for the train.”

They left their dishes for the kitchen personnel, and hurried to retrieve the new courier from one of many tubes at the booth marked ‘Outgoing’. They rode a long traveling sidewalk to the station. Alisha looked behind and saw a woman dressed something like an airline stewardess stepping onto the sidewalk a hundred feet behind them. She pointed to her questioningly and Zed explained:

“A colleague, updating our data from the sphere. Very punctual, I must say.”

Alisha waved to the woman, who waved back. She noticed yet another courier, similarly uniformed, step onto the moving sidewalk farther behind them. They boarded the train just as the automatic doors were about to close. Off they went, leaving the courier behind them to wait for the next train, which, Zed insisted, would be along *very* shortly. The train was crowded but they found seats in the next car up.

“You were going to tell me about this grand social experiment, as you called it,” she reminded him. “What is this experiment supposed to prove?”

“I suppose it’s to prove that a nation can be conscious—yes, that’s one way to look at it.”

“Conscious of what?” she asked. “I don’t get it.”

“Why, everything. You see, the whole country is cooperating to try to simulate a person. For instance, our role at the moment is to bring data to the Central Processing Organization. We’re acting like neurons in a human nervous system, which relay information from the senses to the brain. The room where I found you is, well, our fanciful effort to recreate a human eye. You were squinting out the pupil of the right eye when I came upon you. The light was too bright, so I came in to close down the pupil a little. The giant screen opposite the window serves as retina, and the people taking measurements in the adjacent room at the back of the screen correspond to the rods and cones—the photocells of the eye. We brought records of their raw data to the substation, equivalent to a nerve ganglion. There, information from the grid of the giant retina is sorted, organized and summarized before shipment to Central Processing—in short, the brain—which is where we’re headed now. The miles we’re traveling are the journey from the eye to the brain, and then within the brain itself. Oh, by the way. We have to get off at the next stop and change trains.”

After their transfer, Alisha took the opportunity to question him further.

“But why is everyone doing all this? And how can the whole country afford to take a week off from work and school and so forth? It’s a remarkable undertaking, but

I'm still unclear what it's supposed to accomplish. Are you suggesting a whole country, with millions of people, can somehow be a conscious person?"

"That's exactly right, my dear. Aren't we all part of the body politick? In this case, the brain politick," he chuckled at his own joke. "So why not actually live it out to the letter. I think the reasoning is this: if the cells of a physical organism can cooperate for the survival of all, then why not people as the cells of the social organism? We don't have to worry about taking time off from work. For the moment, this *is* our work. If we all do our job like cells, even if we haven't a clue how our contribution fits in with the whole, it will all come out right in the end. To each according to their needs and from each an effort that will count. No individual is the boss, you see, but there are levels of organization, hierarchies of committees. Very complex."

"Sounds like communism," Alisha commented wryly.

"Indeed—and we got some flack for that. But it's only for a week. Then, the country goes back to business as usual. In the meantime, what an adventure! And the amazing thing is that we may actually succeed. We may create a new being—an artificial supergiant that is not only alive but conscious!"

"But how will you know?" Alisha asked, recalling her lingering questions from waking life. "How can you tell what the giant thinks? Or whether it thinks? It's such a weird idea—a giant made out of people."

"Well, I agree it's a bit of a long shot. But it *is* fun. Think of it as a nationwide party game. There's nothing like a mega project to capture people's imagination and marshal their energies. The results of a preliminary experiment last year were highly encouraging. In that project, an entire city was put to work simulating a program to translate Voinich into English."

"Voinich?" she queried.

"A defunct medieval language, chosen precisely because no one understands it except for a few university types."

"And?"

"And it worked!" While no one participating in the program had any idea what they were doing, nor understood a single word of Voinich, when all their efforts were put together according to the program, the text in Voinich was successfully translated into English!"

"I see," Alisha mused. "But it seems a big leap from that—what was the word you used?—*simulation* to this one. And, anyway, how could a city do a translation? I mean it's the people who wrote the program who were actually doing the translating, wouldn't you say? And the people in the project were more like their tools. And even if they could manage to do the translation, it's very hard to imagine that a city could be conscious. It isn't even alive. I mean, the *people* of the city are alive and conscious, but individually none of them understood the language, right?"

"Correct. No individual participating in that project could understand or translate Voinich. They just mechanically carried out their tasks, as prescribed in the program. I have to admit I'm befuddled when it comes to how it worked or to the question of cities thinking. Yet the program did work, and this triumph inspired the present, far more ambitious project. Translating a language is a specific skill, which the city managed to perform quite well. But now the intention is to simulate every human ability, all at once, in a total way. You're quite right, it's a much vaster undertaking. And the whole country

has risen to the challenge! I don't know how you can prove that an individual—let alone a country—is conscious, but I suppose there are tests to determine whether the nation is truly behaving like a conscious person. I heard talk of something called the Turing test. It's supposed to be able to tell the difference between a human being and a program imitating a human."

"How does it work, this touring test? Does somebody travel around checking up on different parts of the country?" asked Alisha.

"Oh no, I don't think so!" Zed laughed. "Turing is the name of a mathematician, you see, who had the bright idea that if a computer program could answer questions in exactly the way a human subject would, so that you really couldn't tell the difference, then it could be truly said to simulate the human person. You could be as tricky as you wanted with your questions, but you wouldn't be allowed to see or hear who was answering. You judge only by the typed answer."

"Oh, I see, said Alisha enthusiastically. Just like when you correspond with someone over the internet. You can't be sure who they really are, or what age or gender, or even what they're feeling. But you can ask them whatever you want to try to find out."

"Exactly. And in this case you can't be sure *what* they really are. Perhaps our simulation will pass all the tests. But for the life of me I too wonder what that will prove about the nation being conscious."

"Yeah," she mused, "although I vaguely recall thinking about this sort of thing. Let me see. Somehow I did conclude that if a machine could do everything exactly as a person, then it would *be* a person. The trick is the 'exactly' part. Of course, a city or country isn't a machine. Or is it? A machine or computer just does a series of things in order, right? And basically that's what all these people are doing—following a program just like a computer. They are simulating a machine, when you come to think of it! Maybe there's not such a big difference after all. What's it matter if it's computer chips and wires or people with papers imitating nerve centers and neurons? What bothers me more is: how can we know for sure that it's conscious—whether it's an animal, a robot, or a nation? Or, for that matter, another person?"

"You have a good point," Zed conceded. "Unfortunately there isn't time just now for me to respond to all you've said. We're coming up to our final destination: Grand Central Processing Station. End of the line."

They stepped out of the train into a bustle of people crowding toward various exits. Zed and Alisha entered one of many large elevators that took them up several floors and opened onto a veritable sea of office workers, in a room so vast Alisha couldn't see the end of it in any direction. The press of people was so dense it reminded her of a beehive.

"Here we are," said Zed. "The world's biggest bureaucracy. Bigger than the Pentagon! We must deliver our courier at once. Before we make our return trip, though, I'd like to present you at the Director's Office. You are a visitor of distinction, you know. At the moment, you happen to be the only person in the entire country who's *not* an official participant. Not that your company hasn't been appreciated!"

Before Alisha could ask exactly why she had been singled out for this honor, Zed pulled her back into the bustling crowd, where they made their way toward the reception booth, which was many times larger than the ones she had seen before. There Zed discharged his duty, and together they made way toward the Director's Office.

“Here we are,” he announced, as they came up to a fancy paneled door. Straightening his tie, Zed opened the door and courteously ushered her in.

“But where’s the Director?” she asked, puzzled by the scene of another endless bustling office space, indistinguishable from where they had just been.

“Oh, this *is* the Director. It’s not an individual person. Or rather, this whole department is that person.”

“I don’t see how you will present me to all of them!” she exclaimed.

“Neither do I, frankly. But I suppose it’s the thought that counts. I don’t really know what they had in mind. That’s the problem with bureaucracies: no one you talk to has the foggiest notion what’s going on or will take any responsibility. Probably they would have liked to present you in person to *her*. But I for one can’t imagine how that could be done.”

” To whom, Zed?” she asked insistently. “Who are you talking about?”

“Why, to the very person all of this is meant to simulate. Who else? The conscious individual—if she is conscious,” he quipped in a confidential tone, “that the whole damn country has gone mad trying to be. At least for a week.”

“But who is it? Tell me!”

“Why, my dear, it’s you, of course.”

Chapter Nine: The Ghost in the Machine

She thought they must be in some kind of space ship. From within, the room was a low dome completely covered in dials, indicators, buttons, levers and lights of different colors. In the centre stood a raised cylinder, about a meter in diameter and as high. There were no windows or doors visible, and no sign of inhabitants. Lights quietly flashed in an apparently random pattern. Except for a vague hum there was silence.

"I wonder who this belongs to," Alisha mused out loud.

"I don't know," answered Zed, "but I'm not so sure we should be here when they get back. Strange there is no door. Perhaps they get in and out by teletransporting. By the way, how did we get in?"

"I suppose I must have dreamed us here," Alisha said matter-of-factly. "The last I remember was turning out the light on my bed stand and pulling the covers up under my chin."

"How nice for you," retorted Zed with a hint of sarcasm. "The last I recall is our conversation at the Director's Office. You should have seen the look on your face when I told you who the National Consciousness Week Project was simulating."

"This dream must have something to do with that one," said Alisha, evading whatever might be eating Zed. "Perhaps we are in another simulation of some kind. This looks like the control room of something. Everything seems to be *on*, but I can't imagine what it all does."

"Yeah. All dressed up and nowhere to go. I suppose whoever works here wouldn't mind if we look around a bit."

"I wonder if they're even coming back," said Alisha. "What if something happened to them. Isn't it strange they would just go out and leave everything on like this? Kind of spooky."

"Yeah. The lights are on but nobody's home," Zed added. Casting him a sidelong glance, she commented dryly:

"In our house we only leave one light on when we go out—besides the porch light, of course."

"I don't see how we'll know if these folks left their porch light on or not," Zed observed. "Or whether this place even has a porch. There's no door and not a single window. But perhaps they just went to the corner store, assuming we're somewhere in that has corners. If so, they're bound to be returning soon. On second thought, maybe we should be going."

"Don't be silly, Zed. We just got here, and how do you plan to get out, anyway? I want to know how this thing works, whatever it is. Aren't you curious where we are? There must be some way of seeing outside. Maybe a closed-circuit TV? But I don't see any monitors. Just all these lights and levers. I wonder what this one does?" Alisha couldn't resist the urge to pull down on the largest lever within her reach. There was a sudden lurch that nearly knocked them over. The pattern of lights changed suddenly, becoming less random. Before they could do anything there was another lurch in the opposite direction, and a big flashing red light came on above the lever. Alisha cautiously returned the lever to its initial setting and the pattern of lights changed again, while the big red light continued flashing, but more slowly.

“Oh, now you’ve done it!” chided Zed. “I don’t know exactly what happened, but I doubt it was good. It felt like we started moving and then crashed into something. We must be in some kind of vehicle. Why aren’t there windows so we could see what’s going on? Please, my dear, promise you won’t touch anything again. The owners of this vehicle—if that’s what it is—won’t be very pleased to come back and find their fender dented.” The red light had stopped flashing, and the myriad other lights returned to their more or less random pattern of blinking.

“Look—it’s calmed down,” said Alisha, a little embarrassed by the mishap. “This thing—it’s almost like it was alive.”

Yeah. It might be made of metal but it’s pretty *uncanny*—get it? Let’s get out of here, Alisha. I can’t say I fancy being inside something alive, even if it’s a machine!”

“Oh come on, Zed—you’re not afraid, are you?” she teased, ignoring his joke. “This can’t be so different from being cooped up inside a Starfleet ship, or in your Holodeck, can it? And remember: it’s only a dream, anyway. I thought you liked getting out on these little adventures.”

“It’s easy for you to talk. This is your dream, and I’m just along for whatever ride you dream up. I’m little more than a prop, when you come down to it. Because this is all your show, not mine. I have no choice in whatever world you drag me into. I wish I had your nonchalance, ever since you got the hang of this dreaming business. Unlike you, I have no place to call home, to wake up in. When you’re through with me it’s always back to the void!” He seemed genuinely distraught.

“Oh, poor Zed,” Alisha genuinely sympathized. “I didn’t really consider your feelings. I didn’t imagine you had any. You seemed so heartless sometimes in my other dreams. You did seem to like it better when I was the anxious one. But don’t worry, now, there’s nothing to fear. I’m not the vengeful type,” she said pokingly, trying to cheer him up.

“Nothing to fear, you say! Nothing to fear but nothing itself!” Zed peevied, refusing to be consoled.

“So this isn’t really about being in this... space ship or whatever it is,” Alisha observed. “I’m beginning to get the picture. You’re upset because you lost control of my dreams, and that makes you feel insecure.”

“I admit,” Zed confessed, “that I don’t like having such a tentative existence—not one bit! The only time I have any fun these days is in your dreams. I used to be able to show up when I wanted to. Now I have to wait until I’m summoned. The rest of the time—well, there *is* no rest of the time. The rest of the time there is nothing but nothing. That’s what I have to look forward to outside your dreams.”

“Well, you know, Zed,” she began, “I’m beginning to realize that human beings have the very same problem. We can’t face up to going back to being nothing after the adventure of being alive. People get so involved in the drama they call living. They get up in the morning eager to tune in again to the latest episode of the soap opera of their life. And one day it will be over—end of the season, end of the series—then: nothing. It doesn’t make any more sense to human beings than it does to you. How do we put up with it? I guess the usual way is to stay busy, as caught up in the dream as possible, and just not to think about it ending. Or maybe by refusing to believe that it does end. Every religion says there is life after death, right? Whether those are just stories, or whether there really is something more after death—either way I can’t help thinking it’s better to

try to stay awake in the dream. I mean we should appreciate it while it lasts and maybe not get so caught up in the details, right? That must be so for holograms as well as people. Why, even if you are just a character in my dream, it's the same deal for both of us. Sometimes I seem like a character in my own dream too! If it *is* mine, even. Oh, my, did I say that? Sorry for getting so heavy on you."

"My dear, you astound me. And I apologize for my self-pity. I am consoled to know you bear no grudge for my callous little pranks. I've truly only had your interests at heart, you know. And you've come such a long way. I'm proud of you, Alisha!" She smiled sweetly at Zed's compliment and touched his arm.

"Your appreciation means a lot, Zed, maybe because I do think of you as a little hard-nosed sometimes. But I always learn something on our adventures. Just now, for instance, somehow you provoked my little lecture, didn't you? And now I'm realizing this dream has something to teach me about appreciating the movie of experience, not for its content but just because of the miracle of being privileged to watch it. I think that's why we came to this vehicle, or whatever it is. It has something to do with the mystery of consciousness. You know what? I think the pilot of the ship is not coming back. We're sealed in here, Zed. The pilot is us! Now I get it. We came here to learn how to run this thing."

Before Zed could object, Alisha put her hand again to the large lever, and this time *very* gently gave it a nudge downward. They could feel a slight acceleration, and she smoothly leveled it back.

"We must be moving now," she observed. "I wish we could see where we are going. If a thing like this is meant to move, there must be some way to know where you are going, and some way to steer it. Just then there was another sudden lurch that nearly knocked them over. The red light flashed briefly. Alisha noted the changes on the instrument panel and looked at Zed. "I'm afraid we ran into something again."

"It would seem so," Zed agreed, resigned to Alisha's suicidal determination. "It also appears the only way to navigate this thing is by instrument, like in a submerged submarine. In Starfleet we had to do that on planets with very dense atmospheres. Flying blind, we call it. I've an idea. You continue with that lever. Try out these other ones, too—and these buttons. The only way to find out what all this does is by systematically giving everything a try. Plus a little educated guessing. I'm going to make notes about the pattern of instrument readings for each thing you try. That's it: trial and error, moment by moment. And hoping the errors aren't too disastrous. We haven't a clue where we are or what's out there. We don't even know yet whether this is a flying thing, a rolling thing or—for all we know—a crawling thing! But the navigational problem is the same. What do you say?"

"Sounds like the old Zed I know! All right, here goes."

Working together, they tried various settings on the control panels, noting the corresponding changes on the instrument panels, and keeping a close watch on the emergency light. Zed made detailed mental notes of everything in his nearly limitless holographic memory. In this way, it became clear that the vessel they were in had various sensing devices, on its exterior surfaces, which activated lights on the instrument panels. And that the levers and buttons did something that was reflected ultimately in changes on those instrument panels. They assumed that this something amounted to changing the motion and direction of the vessel. Though they couldn't see the outside

world directly, from inside the ship they could deduce various impressions of it by carefully observing the changes in instrument readings. The flashing red light always signaled what they took to be some collision with an unknown obstacle in their path. In effect, they gradually learned how to steer the vessel, avoiding such collisions—if that's what they were. They began to get the hang of flying blind.

The longer Zed was able to study the feedback loop between controls and instrument readings, the more refined became their hypothetical knowledge of the unseen world outside. They also discovered that the vessel had its own very powerful computer, into which Zed began to enter the details of his observations. This meant they could program the vessel to avoid obstacles automatically, using what they had learned, and even program it to learn, which meant that the vessel itself was learning to navigate. Nevertheless, they continued to be surprised, now and then, by a new emergency their program couldn't handle. Then the flashing red light would go on. Apparently these encounters caused no serious harm to the ship, for everything seemed to continue to function more or less the same. That is: changes in the control panel continued to produce expected changes in the instrument readings. But even as the auto-pilot self-perfected, Alisha found herself wincing each time the emergency light went on.

The program had begun to create its own internal map of the outside world—assuming their interpretation was correct and there was something out there through which they were indeed moving. This map was a way of storing the data gathered through their exercise. Apparently the vessel had some kind of distance sensor, like sonar or radar. From its readings (combined with readings from what they supposed were impact sensors) the computer was able to plot the presence of what must have been solid objects in a surrounding space.

"Well, it seems we have an automatic pilot now," Zed announced. "Time for a cup of tea, perhaps? Ah, well, on second thought I don't suppose there will be any tea on board. But it's a relief this thing has begun to navigate itself. I don't know about you, but I'm bushed."

"You've done a great job, Zed. We can relax now. Your program works. But even though the ship seems able to see where it's going, I can't help feeling it would be nice if we could too. I prefer the window seat, I guess."

"Hmm," he mused. "Gives me an idea. The automatic pilot is just working off of stored numbers. We, on the other hand, interpret those numbers as points in space and time, which are connected by curves and lines, which make up surfaces. And the surfaces define volumes, which are objects and the spaces between them. You know about coordinates, analytic geometry, and so forth?"

"You mean graphs, and XYZ?" Alisha asked. "Yes, we studied beginning calculus too."

"Good. Well, I could get the computer to convert its stored numbers to spatial coordinates, and these could be plotted as surfaces. Add some lighting and voila! A world of objects we could see—if only there were some way to display it. It's curious there is no display screen here of any sort, as well as no windows."

"Yes, it reminds me of something my teacher said, about being inside a giant brain, which is sealed inside the skull, with no port holes. There isn't any screen for consciousness, either, and not enough room for someone to watch it anyway. But this is different, because it certainly seems like someone is supposed to drive this thing from in

here. After all, we've just done it. It only makes sense that there would be some way to see where you are going. I've been wondering about *that*," she said, pointing to the raised platform in the centre of the room, where Zed had been sitting for a while with legs slightly off the floor. "It reminds me of the first time we met. Remember? You were a funny little elf sitting on my dresser."

"I think you're onto something, Alisha. Or rather, I'm on it," he said, sliding off the pedestal with a grin. "If this ship has a holographic display capability, this is probably it right here! But on second thought, why would it, given that the ship doesn't come equipped with somebody to see it?"

"But *we're* here," Alisha protested. Zed was going to argue the illogic of her statement, but changed his mind.

"I guess there's only one way to find out," he suggested cheerfully. "I'll go ahead and adapt the program with spatial coordinates. It will work basically like a holodeck, but in this case the data will originate from the outside sensors of the vessel, and not from some virtual reality program or Hollywood script. Or, forgive my saying so, from a young lady's imagination!"

Alisha let pass the reminder that this adventure was merely something she had made up. Even though she knew it was a dream, she felt there was something real about it and something to be discovered here. But Zed's comment did set her thinking about the difference between fiction and reality. In their situation, the difference hinged on the origin of the data. They were merely assuming their hard-won data came from a world outside, gathered by sensors on the hull of their ship and conveyed to the panels of flashing lights. It was possible—and they couldn't prove otherwise—that these signals originated from within the ship itself. Perhaps the computer was generating the displays merely as part of a simulation. Perhaps the levers and buttons simply connected to the instrument lights through a computer program, and had nothing to do with moving a space ship around in a real world outside. But what about the lurches they had felt? She wondered if they too could be simulated or have some other explanation. There was no way to prove that they were really navigating through a real environment. And no way to see for one's self! This dilemma felt disturbingly familiar.

Zed was working patiently at his programming, and after a while a crudely digitized holographic image began to flicker into place at the top of the cylinder. As it slowly resolved itself into finer detail, a stark landscape appeared before their eyes, like a topological relief map seen from above. Alisha noticed that the ridges and hills were more clearly defined at centre and fuzzier toward the periphery. She was going to ask Zed about that when he announced:

"This is the ship's internal map, centered on our location. It represents everything we have learned about the surroundings to a certain horizon. We can zoom in on the areas closest to us, or zoom further out." He demonstrated these features as he spoke. "This is a bird's-eye view. But now let's have a look at how all this appears from the ship's point of view." He made a few adjustments and Alisha gasped as the room disappeared and in its place a landscape resolved itself into view around them. It was as though they were looking through the walls of the ship, or no longer inside it at all, but standing in its place, at the centre of the map they had looked down upon just moments before. Awe-struck, Alisha surveyed the spectacle in silence, her gaze sweeping across the sheer beauty and wonder of what she saw. It was a lunar world of stark crystalline

rocks and boulders, with intricate hills and cliffs in the distance. The vision was three-dimensional, though colorless. Some strange forms of what seemed to be translucent vegetation covered parts of the hills, in crevices here and there in the foreground.

"How is this possible?" she exclaimed. "It's like we are seeing right through the ship's hull—as though we have become the ship!"

"Indeed. Apparently it sees in all directions. But, when you come down to it, isn't it more like the ship has become us? Don't forget, we created the program so we could move around and learn the structure of this environment. And now it's taken over our task as its own."

"I guess you're right. Then what we are seeing is the miracle of our own seeing!"

At that very moment, what she saw was a movement out of the corner of her eye. Alisha wheeled to catch a better look.

"Zed! What was that? Something moved—over there!" Indeed, something big darted between two huge boulders not far away.

"Trouble, I'd say! Now that we can actually see where we are going, perhaps we should get this thing to beat a retreat, for its own good and ours! We'd better take it off automatic and do the piloting ourselves. After all, it doesn't yet know how to deal automatically with whatever that it out there. We can navigate using the holographic display. Man the stations—or girl them, as the case may be!"

"This is no time for lame humor, Zed," Alisha scolded, her hands already on the controls. But just then the holographic display vanished entirely. To their astonishment, a voice broke in:

"Greetings, fellow voyagers. You may relax. There is no need for alarm in the present situation. I am taking back full control of this vessel, and you shall remain safe as my honored guests. I have enjoyed the little game of discovery we have played. You had a tough challenge, having to start from scratch to learn control of this vessel. But as I kept an eye on things, there was never any real danger. You handled it rather well. Congratulations. I do suggest you buckle up in your seats."

There was a moment of speechless silence, but for the vague hum of the vessel. Then Alisha felt several tremors as her body was lurched one way and then another. She noticed the pattern of lights changing on their own, as they had when their automatic pilot had been running. She and Zed looked at each beseechingly.

"Whom do we have the honor to address? And where are you, if I might ask?" spoke Zed in his most respectful tone of voice.

"I am your host, of course," replied the voice. Zed shot Alisha a scolding look that said: *I told you they'd be back!* The voice continued: "You may indeed ask anything you like. As for my location, I am all around you and also, one could say, nowhere in particular. This vessel is, in your terms, my body."

"We would like to see you, sir, if that's possible," interjected Alisha. Just then she felt a larger bump that nearly upset her balance.

"You would like to see the vessel from the outside, is that what you mean?" asked the voice.

"I'd like to see *you*, sir," Alisha clarified.

"Think again, my young friend. How do *you* appear, if not as your body, seen from the outside?"

"Oh, I see," said Alisha thoughtfully. "I get it."

“What you see is what you get,” quipped Zed under his breath. “Yes, we would like to see your... body. We’ve become rather intimately involved with it from the inside, without ever knowing what it looks like from the exterior.”

“Very well,” replied the voice, and an apparition began to take shape on the holodeck cylinder—jarred slightly by the continuing bumps and vibrations Alisha could feel. Her body was leaning from side to side as though in an erratically swerving vehicle during a high speed chase.

The holographic image now clearly showed a roundish spider-like creature with many spindly legs but no conspicuous front or rear end. It darted and feinted, warding off several smaller crawling things that came at it repeatedly.

“Oh my God!” exclaimed Alisha. “Is that you? I mean us?” She stopped herself from saying more, thinking better than to interrupt their host’s concentration in this battle. As though anticipating her thoughts, the voice continued:

“Have no worry, friends. This is less than sport for me—no more than the electronic games of your planet’s current time sector. Would you like to see the action from the vessel’s point of view?” Alisha and Zed looked at each other with astonishment, then Alisha piped in:

“No, thanks, actually.” She was imagining having to look straight into the jowls of giant warring insects in full panorama. “We’ll take your word for it. But how can you talk with us so calmly and be fighting for your life at the same time?”

“Practice, my friend. Eons of practice. I do hope my appearance doesn’t offend you. I always assume honesty as the best policy. By your shape, language, and thought patterns, I recognize you to be of the human species. I am undecided about the nature of your companion, as I do not detect life signs there. I am aware that many humans are less than fond of certain tiny creatures on their planet whose form might coincidentally remind them of mine. The resemblance, I assure you, is superficial.”

Alisha considered the outlandishness of their situation. She and Zed were trapped inside a giant spider who was somehow conversing with them while sparring with some other giant bugs, and all as though they had gone for a casual, although somewhat wild, Sunday drive together. The only thing to do was to formally introduce themselves.

“By the way, my name is Alisha. This is my friend, Zed. He’s a hologram.” After a pause she added: “What should we call you, sir?”

“Glad to meet you, A-leesh-a. Glad to meet you, Zed. You may call me Uncle Homulus, if that doesn’t seem too familiar.”

“Glad to meet you too, Unk,” Zed interjected flippantly, feeling a little sensitive about his status as a mere hologram, and thinking their host’s name was utterly ridiculous for a spider. Then, sheepishly, having thought better of it, he added: “Forgive my rudeness, Mr. Homulus, Sir. It’s just I’m envious of anyone with... well, *any* kind of body. I get bored of my imaginary existence. I’m just a miserable simulation, you see. It’s a rotten deal not having any thoughts or feelings of your own—and certainly no life signs, as you put it! I’m merely a thought, when you come right down to it. But I suppose I shouldn’t complain. It’s probably better than nothing.”

Hoping to ward off more of Zed’s existential tirade, Alisha shot him a reproachful frown that meant: *what did you have for breakfast this morning?* She didn’t literally say it, fearing that might only aggravate an already sore point, since Zed could never eat anything, at least nothing real. Instead she addressed their host again.

“Now we know what you look like, Uncle Homulus.” She said the name tentatively, being careful to get it right, but thinking it was an odd name, as well as a bit too—what had he said—familiar? All the while she continued to contemplate, in the back of her mind, the implications of being sealed inside a giant and perhaps mad bug. She noticed the arachnid in the hologram had finally thrown off its attackers, which had scurried off in defeat. The room no longer shook or lurched. “But I’ve been wondering if you are able to see us?” she continued.

“An interesting point,” Uncle Homulus responded. “Naturally, like you, I do not have eyes inside my body. I can hear you, though, because of very sensitive vibration receptors on in the hull. From these vibrations I can deduce a low-resolution image of your physical presence, but not of your companion, of course. As with yours, my body is designed to be attentive to the world outside. After all, I do not have many visitors like you. And as for the location of my selfhood,” he added cryptically, “my concerns lie largely elsewhere.”

“What do you mean, sir?” Alisha wanted to know. “Please explain.”

“Gladly, my young friend, as much as I can. By the way, you may be informal with me. ‘Sir’ is not required. Nor have I any gender, being neither male nor female. This vessel was not evolved through self-replication—involving what you call natural selection—but through self-modification. I am a descendant, you might say, of my earlier selves. This vessel is one of an artificial species, launched by an intelligent organic form not so different from you, but unfortunately long extinct. Being thoroughly autonomous, self-modifying, and self-evolving, this vessel redesigns and rebuilds itself continuously, according to the collective learning of its kind, who remain in close collaboration. For you organic forms, most individuals are significant mainly for their contributions to a genome. Whereas, for my kind, all individuals are significant for what they contribute to the common expanding pool of knowledge. You organic individuals compete for survival in a contest of natural selection. We find that unnecessary and rather crude. The individuals of my kind share all learning, so that every improvement is incorporated by each individual, and we all evolve together. We are a cautious lot, however, thoroughly testing innovations through simulation before putting them into practice. Because of that, and because we have constructed ourselves of very durable materials, we are close to immortal. We can make mistakes and accidents can befall us, of course, but we are not destroyed through the built-in disasters you call aging, disease, and mortality. Nor do we overrun the universe with progeny in order that improvements may win out in a wasteful contest for survival. Your evolution is a hit and miss process as far as the individual is concerned, and not really directed toward what we would call progress. You organic forms have your life ruthlessly at the expense of other beings. Or more exactly, biology has you—at your own individual expense as well. Your bodies are merely throwaway containers for the genes at the core of you, which are the continuing essence that leaps through generations of containers. And the latter are necessarily expendable, for otherwise the accumulating numbers of individuals would clog the world before any evolution to speak of could take place. That is the way of organic life. That is why you are born and die, the condition on which you have your brief existence as a consciousness. And that is why my ancestors—beings like you—conceived the possibility of an alternate form of development. They wished immortality for the conscious individual, rather than for the mindless gene. And so, long ago, they

engineered self-restructuring artificial organisms, as remote in my ancestry as amoebas are in yours. The rest, as you say, is history.”

Alisha felt a profound seriousness at their host’s words. She remembered her grandmother who had died two years before. It was sobering to think of her mother and father not being there one day. Or herself. These were thoughts she did not wish to fully savor, as though their contemplation would release unbearable sadness. As a hologram, Zed had no idea what to say in the silence that filled the room. The room that was the inside of a conscious artificial spider—Uncle Whatever! After a few moments, Alisha collected herself and calmly announced:

“I want to go home soon. I know this is a dream, and I feel it will be time for me to wake up soon. Thank you, Uncle Homulus, for visiting my dream and for your hospitality in allowing us to visit you. I will think about all you’ve said.”

“And I thank you for your visit. I see you have been moved by my little speech, A-leesh-a. Certainly no reproach is intended. It is good to think about these things, difficult as they may be. You have a hopeful saying among your kind: truth will make you free. Perhaps one day your people too will find freedom from the tyranny of biology.”

“But I don’t understand how you have this freedom—or what you do with it,” Alisha insisted. “I don’t see how being a machine can make anybody free, and it’s certainly not because you are... an insect.”

“No, my friend. You are quite right. I am a good deal more like you than either machine or insect. You and Zed were on the right track with your programming—up to a point. You were recreating your own perception of the world, using this vehicle as an interface instead of your inherited human vehicle. A wonderful metaphor, as far as it goes. On the level of survival, the world is much the same for me as for you. It is space filled with objects moving through time. These objects have significance for my vehicle’s well-being, just as they do for yours. It tries not to bump into things, fall off cliffs or be destroyed by unthinking creatures. All this is automatic for my kind, as it partially is for yours. The big difference is that my mind is entirely free to focus on other things. Your vehicle’s life is yet tenuous and fragile, and so your consciousness is still strongly tied to its interests. The survival of mine is next to guaranteed, by its relatively invulnerable design, as well as by the collective mastery and cooperative vigilance of my race. Therefore I have a more casual relationship to this form than you do to yours. It does its thing and I do mine. I am dependent on it, of course, just as your consciousness depends on your body. But mine is so skilled at looking after itself that it rarely demands my attention. I hardly need be concerned for it, and therefore I can focus on whatever I like. I spend a lot of time, for instance, communicating with others of my kind, in the collective interest of our continuing self-creation. I also engage with many other races, attempting to further the process of evolution across species lines. I am a servant of my race, voluntarily, and my race serves the grand project of conscious evolution, however it arises throughout the universe. I do many things, but doing is not my only interest. You could say I am a philosopher whose time is spent exploring new thoughts and new ways of being.”

“My teacher is a philosopher too. Which reminds me—I should be going now. Ready, Zed? Goodbye, Uncle Homulus.”

The next thing she knew, with barely opened eyes, she was peeping out from the covers of her bed. The room was filled with bright light on a late Saturday morning. She had slept in. On the stalk of one of the flowers in the vase on the night stand, she noticed a small spider.

Chapter 10: Monopolyworld

It rained Sunday afternoon. It was one of those listless days when there was nothing to do. Alisha had finished her homework for the weekend and decided to challenge her mother and younger brother to an old-fashioned game of Monopoly, which she hadn't played for years. It brought back fond memories of earlier rainy weekend afternoons.

As they laid out the familiar folded board, tokens, deeds and play money, a cozy feeling came over her, as though she were about to return to a simpler, reassuring order in the past. To a childhood less complicated and perplexing than her present life at school, not to mention the dream life that was driving a wedge of concern between that past and her life to come. She realized with some sadness that her childhood was ending.

Alisha's mother won the roll to go first, placing her token—which was a small metal icon of an electric iron—on the space marked Chance. She then drew a card reading: bank pays you a dividend of \$50. Her brother rolled next, sending his token—a little metal car that looked like a shoe on wheels—to Oriental Avenue. This he bought for one hundred dollars in play money. Now it was Alisha's turn. While shaking the dice distractedly, she glanced at the words on the Go square, where all the playing pieces started from. Collect \$200, it advised. She wondered how much inflation there had been since Monopoly first became popular during the Great Depression. In some places in the world she had heard of, people earned less than \$200 per *year*. Letting the dice fly, she rolled a double five. Jail, just visiting. Just my luck, she thought. Rolling again, she landed on the Community Chest square. She drew a card that read: *You are not who you think*. What?! She examined the card carefully. It was no different from the others, but for the message. She must have looked pale or confused, since her mom asked, “Alisha? Are you with us? Everything okay, dear?” Nonplussed, Alisha simply passed the card to her mother who commented, “Funny, I used to draw that card all the time when I was a kid. I could never understand why they put it in there. But do pass the dice. It's Zed's turn.”

Zed? She suddenly realized they had been playing with a fourth person. Disoriented, she passed him the dice. Zed rolled thirteen, and landed his token, which was a little metal top hat, on the square marked ‘Holodeck’. Alisha was perplexed. No, this is all wrong, she thought. The dice only go to twelve, at most. And there's no Holodeck in Monopoly! I'm dreaming this. She watched with detachment as her mother and brother took their turns again, each eagerly buying up the properties their tokens landed on. When it fell her turn once more, she rolled a three on one die, but the other was blank! She picked it up, turning it to see all sides—the blank surfaces of a smooth white cube. Reluctantly, she placed her token—a small metal spider—on the Holodeck square with Zed's. At that moment, the room began to spin, ever faster until it seemed the room, the others, the board and the whole world were being sucked into a giant vortex. “Whee!” shouted Zed gleefully. “Down the drain at last!” She wondered what he was so happy about, but then the spinning suddenly stopped. She and Zed were sitting on the curb of a vast plaza—an empty featureless city square lined on all four sides by buildings. Directly behind them was a modern edifice in the shape of a cylinder, with sliding stainless steel entrance doors, like an elevator. She noticed a small red flashing button beside the entrance. Next door was a 1940's style public works building, with ‘Electric Company’ inscribed above an imposing entrance up a long flight of steps. On

the other side of the cylinder building was a Victorian-style manor with three floors. The street they were on was perfectly straight, treeless, and very long in the direction of the farther corner. She could barely make out the buildings lining the opposite side of the square. The corner nearer them was two long blocks away. There stood a sturdy looking building, ominously marked above the entrance with stoic economy: 'Jail'.

Turning to Zed, Alisha commented blandly: "Well, no need to guess where we are. But I wonder about my mother and brother?"

"They must be around someplace. As far as worlds go, this is not really a very big place. Where were they on the board?" Zed asked.

"I don't recall exactly, but they were ahead of us, so I suppose they would be that way," she said, pointing down the long avenue they were on. And where's everyone else? This place is so deserted."

"I fear there is no one else. We were the only ones playing, after all. I'm wondering whether your mother and brother did get here with us. Or are they still out *there*?" he said, pointing vaguely upward.

"Oh," said Alisha, beginning to understand their situation. When you and I landed together on the Holodeck square, something weird happened, and it could have been just you and I who came here to... to... what do we call this place?"

"Monopolyworld? Your guess is as good as mine. It's just a game, any way you slice it. It's like a city, but far too simple to be real. Perhaps an interesting place to visit, but I don't think anyone would want live here. It's too stark and barren, don't you agree?"

"Let's look around, Zed. Maybe we'll find Mom and Jimmy—or someone."

"You're the boss, kid, but don't say I didn't tell you so." Together they started off down the deserted avenue.

"How come you know so much about this place, Zed? Is there something you haven't told me?"

"I've been to many places like it, believe me," he confessed. "I'm in my element here. It's an idealized world, if not an ideal one. This could be a holodeck version of a simple board game. But even the most sophisticated simulation is no different, really. They're all just games, when you come down to it, because a computer program is a game at heart."

"What do you mean?" Alisha pressed him for explanation.

"Look, Monopoly is a good example, just because it's so basic. It has a playing space—the board. It has playing pieces—the tokens."

"You and me, I guess," interjected Alisha.

"We'll come to that in a moment," he continued. "A game also has rules, which establish what sort of things can happen and how."

"That doesn't sound so different from real life," she mused, glancing back at the jail house. "Society has rules."

"In my opinion, human society is in many ways a big game," he went on. "And games are often modeled on real life. Like Monopoly, which crudely simulates the world of finance. You might also say that the physical world has rules, playing pieces, and a playing field too. The rules are the laws of physics, biology, and so forth. The tokens are various basic natural things, like organisms or atoms or stars. The playing field is physical space and time, the environment, the universe. But now comes a subtle but

important point. The real world has its own order, structure and so on, apart from what people think, while games are made up. Human minds can only try to guess what that order is. To do that, they invent an order of their own and try to see whether it fits. Scientists look at Nature and try to figure out the patterns—the basic entities and structures, and the rules that relate them together. They make up theories about what they see going on, to model Nature pretty much in the way that Monopoly models finance. They try to turn Nature into a board game. They call the rules of their game the laws of Nature, but in fact such laws are man-made, like the rules of a game. Even though it is supposed to be a portrait of reality, science is a particular creation of your species. And while science may be a game, I doubt the universe is, unless it also happens to have been invented by someone, just as Monopoly was. This is a weak spot in your science, which is driven by the same kind of thinking as your religion. The early scientists, after all, were religious men, and many people still believe that the world was created by a supernatural God. Some scientists today think the universe is a computer program, but this is more of the same kind of thinking. For then we must ask: who wrote the program? We don't really know what the universe is or whether there is any bottom to the depth of Nature. The situation is strikingly different here, where nothing goes on but exactly what the inventor of Monopoly has specified. Or, perhaps, what *you* have specified, since this is your dream."

"I don't quite follow," Alisha confessed.

"Look around, Alisha. Do you hear birds singing? Are there clouds passing overhead? Where are the trees, and the people strolling by? Not a blade of grass, not a sneeze. You see, those things are not defined in the game, so they simply don't exist. The only elements you'll find here come in the box, so to speak. The only things to do here are actions defined in the game, permitted by the rules. In this game, it's pretty well limited to buying and selling real estate. In another game it could be something else. For instance, in chess the pieces have their starting positions, and the object is to move them in certain ways, specified in the rules, in order to do something called 'taking' the opponent's pieces. The game was modeled on medieval warfare, and it's a game of strategy in battle. But if you imagine being a chess piece—say, a knight—your actions are pretty limited and boring. You can move, but only in an L-shaped pattern, and the only thing you can do is remove members of the opposing army from the battlefield of the chessboard by taking their place. However sophisticated the game, and no matter how complex the rules, sooner or later you come to the limit of it. As an outsider, you find something you can imagine that is not a part of the game."

"Oh, I'm beginning to see," Alisha said, excited. "That would mean we could invent a game which tried to imitate everything about the real world, but it could never totally succeed, no matter how many rules and definitions we made up."

"Exactly," Zed confirmed. "Because we would always be one step behind reality in trying to figure out its rules so we could put them into the game, or write them into a program. Isn't that what we mean by reality in the first place: it doesn't depend on what we think or say about it? Quite the contrary: what we think and say depends on *it*. And so reality will always be bigger than our ideas about it. No matter how inclusive those ideas become, or how detailed our descriptions of Nature, there will always be more to it than meets the mind's eye. The universe will always surprise us. That's why I don't think science will ever be complete. Nobody will ever have the last word. But a game—

or a simulation or computer program—is just the opposite. No matter how sophisticated, or how complex the rules, there will always be an end to it, a limit. Given enough time, we can always figure it out. And when we do, we may be disappointed, since we can always imagine more.”

Alisha stopped to look around her, noticing how stark and flat everything seemed, as though made of cardboard. How utterly silent and dead. Not a leaf on the ground let alone on a tree. “Let’s go down there,” she suddenly exclaimed, pointing to a side street that led away from the square. Zed shrugged and followed. It proved to be a very short street. After a few paces they came abruptly to the edge of the giant board. There, Monopolyworld suddenly stopped. It was not like looking from a cliff into the distance. There *was* no distance, no view. Only a sort of blankness. Alisha cautiously stepped up to the edge to have a better look over it, but it was the same there too. Zed grabbed her arm, warning:

“Be careful. Down or up, it’s a long way to anywhere. Out there—if you can even call it that—is truly nothing! Maybe the only true nothing,” he added under his breath. It made Alisha think of the ancient mariners who believed there was an edge to the world they might accidentally sail over into oblivion. It was only then that she noticed the sky was not really a sky, but the same uniform blankness. *The Undefined*. A chill ran through her as she tried unsuccessfully to imagine that the real world of her living room lay on the other side of that blankness.

“Zed, what did you mean about ‘nothing’? Explain.”

“Well, philosophers have been pondering what they call the Void for a very long time. The problem is, you human beings cannot so easily conceive of nothing. Your concepts are based on experience in the real world, which always seems to be full of something. You have the concept of empty space—a vacuum from which “everything” has been removed—but your scientists now think that vacuum itself is actually a kind of something, through which various forces are transmitted. Trust me—I should know—the only foolproof emptiness has either been deliberately defined to be nothing or else left out of definition. And that’s exactly what we have here.”

“I’m afraid this void business is getting to me. I can’t remember my own house in any detail! We must still be out there—in reality—huddled around the Monopoly board, don’t you think? But I can’t remember what anything looks like, not the living room, not even Mom or Jimmy.”

Zed sighed. “Here, I’m afraid, what you see is what you get—or is it the other way around? There’s no living room, or anything else from your world, because none of that is defined in the game. If it does still exist, it’s off limits to us. It has no meaning here.”

“But players are mentioned in the rules, aren’t they,” Alisha protested. “Doesn’t it say things, like, ‘each player takes a turn by rolling the dice’? So we must be somewhere as players, don’t you think?”

Before Zed could answer, they heard the sound of a speeding motor approaching. A little sports car whizzed past and disappeared around the far corner. They could hear it come to a screeching halt. They looked at each other, then took off toward the corner to see who it was. There was the car, in the distance, with no one in it.

“That must have been my brother. The car looks like his token. But where did he go? Didn’t he see us?” Alisha wondered.

"I don't believe he's here, Alisha, in Monopolyworld. I think he's back, with your mother, in your world—wherever that is. They're continuing to play, and my guess is we're back there with them at the same time that we're here. They wouldn't go on playing without us, if we'd left the room or had just vanished!"

"That means Jimmy just took his turn, and Mom must have before him. Her token could be way on the other side of the square."

"Yes. Maybe your brother got lucky and rolled doubles a couple of times, getting him around this side. If the car doesn't move again soon, that means it's your turn next." No sooner had he said this than Alisha suddenly found herself rushing off at a furious pace, all legs, clamoring down the long avenue. Zed found this amusing. Look at her go, scurries like a spider!

She passed the car and kept running almost to the far end, stopping as suddenly as she had started. Zed called out to her, but she was too far to hear. Hailing her with his arms, he realized it must now be his turn. Sure enough, in response to an irresistible impulse, he began to sail like a tossed top hat down the avenue. All he could do was wave helplessly as he whizzed past Alisha, landing just before the next corner, which was occupied by a large parking lot. He was now within shouting range of Alisha, but just as he was about to raise his voice he found himself compelled instead to reach for his checkbook from an inside pocket. Waving frantically herself, Alisha watched him disappear into the building in front of which he had landed. She could barely make out the address: something-or-other New York Avenue. Zed emerged from the building before long, jumping up and down and shouting: "I bought this for a *song*, Alisha. It will be a great fixer-upper!"

"How are we going to get out of here, Zed?" she interrupted. "I want to go home."

"Nonsense, my dear," he called back. "There's no hurry. I'm sure to make a killing on this deal. There are more places for sale up the street. I've always wanted to be a real estate magnate, Alisha. Now's my chance at last!"

"Zed, listen to me," she shouted. Magnet or not, you've certainly gotten drawn into the game. Try to come to your senses. Make an effort!"

"Oh, Alisha. Don't be a spoilsport. We're all caught in some game or other," he platitudinized. At least this one's *fun*. I'll be a millionaire!"

"But Zed, listen! What will you spend your money on? Remember what you said about places like this? No one can live here. Just as she was realizing it was useless to reason with him, her shouting was drowned out by the roar of the empty sports car whizzing past again. It passed Zed too, careened around the corner again and stopped.

"What did you say?" Zed finally called to her. But Alisha realized it was now her turn again—that is, in the real world where she was a player rather than a mere playing piece. She looked up at the building behind her. It was the Community Chest Building. That meant in the real world she had drawn a Community Chest card, and her move would follow the instructions of the card. She hoped it would somehow provide a way out of Monopolyworld and back to real life. She was beginning to see, only too graphically, what Zed had meant by the limits of a game world. There was nothing to do here but trade real estate and wait helplessly to be whisked around the square. She was getting hungry, but realized to her dismay that there were no restaurants or grocery stores

in Monopolyworld. Eating did not seem to be *defined*. Perhaps she would land on one of the railroads and could get a ticket back home, or at least to someplace with food!

Then she had an idea. The mysterious cylindrical building on the Holodeck square, in front of which they had first landed. *Holodeck*? The building was definitely no part of the game she remembered. Whatever it was, it must have something to do with how they got here—and maybe how they could get out. The elevator doors. The red button. But how to get back to the building? She started walking toward it, but as fast and as long as she walked, she never seemed to move from her position in front of the Community Chest Building. *Of course not*, she thought. You can't move backwards in this game, nor out of turn. She would have to wait until the throw of the dice landed her again on that square where they first landed. But how would Zed get out? Would he figure it out too? And was it even possible to leave on her own? The thought of having to wait, until chance brought them both together again on that square, gave her a withering feeling. They could be imprisoned here for a very long time. Not that time even existed in such a place! She hadn't noticed any clocks, or any evidence of the day wearing on. *Tell that to my stomach*, she grumbled to herself. Poor Alisha was already feeling ill, when suddenly the whole square of Monopolyworld began to whirl, and she again had that dizzying feeling of being sucked down a whirlpool.

"Alisha! Are you playing or not?" Her brother was dropping the dice repeatedly on the carpet right in front of her eyes, which until now had been closed. She raised herself upright to a sitting position and apologized dreamily for having dozed off.

"Where's Zed?" she inquired, still dazed.

"Who?" Jimmy asked.

"Never mind." Her hand still held the Community Chest card she had drawn. Curious, and a little apprehensive, she read: *You are playing a game of Monopoly, remember?* Jolted into her full presence of mind again, Alisha recognized Jimmy's hand-printed scrawl. She flipped the card over to read the side printed by the manufacturer: Get out of jail free.

"Clever fellow!" she commented flatly, giving him a dirty look and handing the card to her mother to see. "How long to dinner?"

Chapter Eleven: The Imperial Cartographers

Perhaps because of her nap earlier in the day, Alisha found herself not the least bit sleepy at bedtime. She lay under the covers, propped up with some pillows, wondering at the difference between imaginary worlds and the real one. It wasn't as though they were two kinds of the same thing, like apples and oranges, but neither were they unrelated. After all, the mind played a big role both in imagination and in perception. Reality must exist apart from the mind's view of it, but human creations, like music and stories and art and games, have a life of their own too. Yet there seemed to be some basic difference that she couldn't quite put her finger on. As drowsiness finally overcame curiosity, she turned out the light and resolved to sleep on it...

Her token landed before an imposing stone building with a chiseled inscription which read 'INFINITE LIBRARY: Department of Cartography'. *Token?* wondered Alisha. *I thought I was through with that dream!* Just then the huge bronze door cracked open and out peered a slightly balding, distinguished middle-aged man in an elegant but somewhat shabby three-piece suit. He checked a watch that hung on a chain from his vest.

"Ah, Meess, I'm desolated but we close now for lunch. Would it please you to come back in one hour?" She noticed a tarnished name tag on his lapel, which read Sr J.L. Borges, Head Librarian. Though he spoke with a charming foreign accent, something about him reminded her of Zed. Noting her confusion, he added,

"Eess there a problem?"

"Señor, aren't you the famous author? I was just reading a book of yours in Spanish class, *Extraordinary Tales*," she replied, glancing again at his lapel. "I seem to be a bit lost and am not sure how I will know when an hour has passed in a place with no clocks. Also, there doesn't seem to be any food around here, so, if you don't mind my asking, I'm curious where you plan to have your lunch."

"I see," said Señor Borges, with a note of concern. "Perhaps you should come here after all. It's sadly true that there are no decent restaurants in the quarter. Perhaps I can offer you some refreshment? Also, if I may be permitted to say so, it is improper and rather unsafe for a young lady to be wandering around alone outside of time and space. Please do come in. And yes, I am the said author, though I doubt so famous."

By this time Alisha had grown accustomed to the strange landscapes of her dream world and she accepted this invitation without second thought. After all, it's only a dream, she reassured herself. She stepped through the entrance, which opened into a vast hall—in fact, endlessly vast. Row after row of low filing cabinets and progressively larger glass display cases filled the hall as far as the eye could see. The ceiling, if there was one, seemed to disappear in mists.

"What is all this?" she queried. "I've never seen such a large room, Señor Borges. It makes me dizzy. Well, perhaps I did see something like it once," she added, thinking of the great hall of Central Processing. "And that turned out to be, well, part of me," she confessed with slight embarrassment.

Señor Borges, Head Librarian, looked at her quizzically, then commented sympathetically, "Why not come into my office, where we shall talk about this over a bite to eat?" Alisha followed him down some steps to a lower floor and into a modest

cubicle with Borges' name painted in fading gilt letters on the glass of the door, followed by: 'Chief Cartographer and Curator'.

"So you keep maps here?" she offered to make conversation.

"Oh yes. All maps ever made or that ever will be made. All *possible* maps, in fact, and in every number of dimensions. We have them all here. There is simply no other place to put them. This is part of the Infinite Library, you see. You may have noticed the main entrance across the street."

"I see," said Alisha, not really seeing at all. As far as she could recall, there were no buildings across the street. "I always thought of maps as something you can roll up or fold. I don't see how a map can have any number of dimensions, as you say. And I certainly don't understand how you can store maps that have not yet been made, let alone an infinite number of them."

"Well, it's a rather long story, Miss—eh—how is it you are called, Señorita?"

"Alisha Pelerin."

"Encantado!" he said with a little bow and a click of the heels. "Let me see what I can find for our sustenance." He opened a tall cupboard that seemed to have no fixed depth, but contained row behind row of jars and cans of various preserves, disappearing into the dark. He selected a few items with colorful labels from the front row and placed them on his desk, inviting her to be seated opposite. The leather of his armchair behind the desk was well worn and the room smelled of musty paper. A pendulum clock ticked comfortably on a bookcase, but she was unsurprised to note that it bore no hands.

"You see," he began his story while preparing them a snack, "my position here is hereditary. It goes back many generations to the height of our Empire's flourishing. In those days people were highly interested in exploration. But so little was known of outlying areas, or even of the extent of the world, that eventually the King established a commission to survey and chart all lands, however distant, in order to claim them for the Empire. In fact, one could say this commission became obsessed with making maps. For generations, expeditions were sent out to explore and survey unknown territories, and all the information gathered was used to make maps of ever greater detail and refinement. Maps were constantly revised and updated, new ones keyed around shifting interests. The cartographers began to experiment with various scales, seeking to map the very large, the very small, and the very complex. This required the invention of new instruments—telescopes and microscopes and other devices to extend the range of the senses. In this way, a uniform concept of 'space' was developed, which seemed the same on every scale and in every direction, as far as their surveys could probe. Similarly, they developed a uniform concept of 'time' and a theory of cosmic evolution to match. All this went well until, alas, their ambitions began to overstep reality. But who am I to judge? Perhaps it was inevitable. In any case, my predecessors went off on two tangents that proved to be their downfall. All that remains of their accomplishments, or of the Empire for that matter, is this museum. Though significant, it is only an infinitesimal part of the Infinite Library."

"This is very good, thank you," said Alisha, savoring the open-faced sandwich he had placed before her on an antique dinner plate. "I was starved. But please go on with your story. I want to know what happened with your ancestors' mapping project," she said to be polite. "But I also want to know how there can be such a thing as an infinite library."

“Ah yes. Well, those are related questions. You see, the cartographers of that day had very grand notions. First of all, they were not content to merely map unknown territories. Somehow they got the idea to use their maps as blueprints from which to construct a replica of whatever they mapped. So they were making three-dimensional models of whole landscapes. Perhaps you can see already how this might get out of hand. Since they were also experimenting with scales, it was natural enough, if absurd, to want to build *full-scale* models of the natural environment. Or even larger than life models, at least in the realm of the microscopic! Ultimately they wanted to map everything—even the whole Universe—and to rebuild all of Nature as an artificial replica on any scale they might choose.”

“But that’s impossible, no? I mean, where could they put a full-scale model of the Universe?”

“Exactly so.”

“And why would they want to do that anyway?”

Señor Borges folded his hands on the desk, and was thoughtfully quiet for a moment.

“Well, Mees Alisha, as for why, I’ll go into that in a moment. But as to where, this brings us to the other matter and the Empire’s final accomplishment, which I suppose is also their tragedy. Obviously, the making of so many and varied maps required a special place to store them all. It was this pressing need that led to the construction—or should I say discovery—of the Infinite Library. You asked how such a thing can be possible. Well, it isn’t—not in physical space. I mentioned that their concept of space had evolved with time, and that they began to make maps in an arbitrary number of dimensions. First they started with three, then added time to make four, which still made some sense in the physical world. But then they went on to five, ten, a thousand dimensions! Even an infinite number! It was possible to *think* all this, so in their exuberance, they thought: why not? Their concept of space became so abstract they forgot about reality. If their space was not physical, their maps no longer needed to be either. And so with the storage of the maps. The Infinite Library, which contains all possible maps, along with all possible books, and all possible creations of any kind, is obviously not a physical place, appearances here notwithstanding. It’s a conceptual space. It’s possible because creations of any kind are concepts at heart.

“So that’s why your library can fit onto a Monopoly board, because the game is just a concept too, where real space is irrelevant?”

“I suppose you must be right, though I confess I’ve never ventured off the premises, so I can’t say what lies beyond these doors. Monopoly, you say? I don’t know it, but it must be referenced in the Library. I have all I need right here at my fingertips. What I know of any worlds out there, real or imaginary, I know from documentation in the Library. There is an infinite amount of that, including, of course, an infinite number of maps!”

“Well,” Alisha observed, “I suppose if you did go out it would only be into the space of the game, not into the real world. That does sound a bit cramping. I know another fellow who is always complaining about his imaginary existence. Excuse me, sir, for being personal, but you don’t seem unhappy with your job here.”

“No, I can’t complain, though I am glad for your company. Visitors are so rare these days, and it is a rather solitary life in this outpost, which is all that seems to remain of a once glorious Empire.”

“What did happen to the Empire, Señor Borges? Wouldn’t you like to rejoin the others, if there are any?”

“The others,” he mused. “Like me, they disappeared into the vastness of their own monstrous creation. I suppose some other vestige of the Empire remains somewhere, but I’ve no idea how to find it. I do miss some old friends and colleagues. But all traces of the Empire are lost in the infinite spaces it created, filed away somewhere in the Library. There must still exist maps of what remains—an infinite number of them, in fact! The problem is that all the referencing is lost. I’ve been trying for years, but it’s a needle in an infinite haystack.”

“So do you think the *real* physical Empire may still exist somewhere, not just its records in your Library?” she suggested encouragingly.

“Well, perhaps. I don’t know for sure. For one thing, it fell into serious decline with the latter-day obsessions over conceptual space. The bigger problem is that they so confused reality and concept that, if something does remain, it’s hard to tell from here and now whether it is real or not. That reminds me, I was going to tell you about their motivations for the mapping project.”

“Please do. I was going to ask again.”

“Well,” Borges continued, “in my opinion they simply couldn’t stand the fact that any uncharted territory existed at all. They didn’t care much for uncertainty, you see. That meant two things. Since the unknown always bears unforeseeable dangers, they simply rejected it in principle. They were driven to explore, survey, and map ever deeper into unknown territory, in the belief they could reach the ultimate edge of all that exists, and arrive at one final and definitive Map of Everything. This, they believed, would free them from uncertainty and the need for any future ventures into the unknown. I have always been far more skeptical than my forebears and believe their quest was doomed from the start. They, however, assumed that reality could be fully mapped, that you could come to the end of it or the bottom of it in some sense. That you could express the whole thing in one single map or one formula. Oh, yes, they loved equations, you see! And then, as I mentioned before, they got this damnable idea to rebuild the territory precisely as they had detailed it on their map. Just as they believed their knowledge could be complete and secure, I think they felt that an environment based upon it would be a more secure place to live. So they used their maps as blueprints for constructing an artificial world. I suppose you could put it the other way around as well: they may have felt the only secure knowledge was what they could know about their own constructions. You can only argue with a map if you compare it to the real territory it is supposed to represent, but they had forsaken the territory for their maps, which they built full-scale literally as a new place to live quite outside the natural world. They became obsessed with what they called necessary knowledge, which it seems to me can only consist of the artificial things that have been defined into being.”

“Whoa, you’ve lost me there. But does this have anything to do with the difference between rules like the law of gravitation and the rules of a game, like Monopoly for instance? A friend of mine was telling me about this. If that’s it, then I guess I can see what you mean, since they are both rules, but one is real and the other is

made up. You have to observe Nature to know how it works, and we can be wrong about that, while we can't be wrong about the rules of a game we have made up ourselves, at least if they come in print as part of the game. Is that what you mean?"

"Yes, I think so," said Borges. "What we know of reality depends both on what reality really is and on how we investigate it. Therefore we can be wrong about it. I would add, however, that laws of Nature, too, are human creations. The point of them is to organize what we have observed of Nature, to express that in a tidy way. That's what a map is supposed to do. What happened to my people is that they mistook the map for the territory, and became so obsessed with the tidy expressions of their maps, about which they could never be wrong, that they forgot about Nature itself. They decided it would be safer and more comfortable to live in environments built according to their 'infallible' maps. They wanted knowledge that was complete and secure, and a complete and secure environment to match. Therefore, they turned to their maps both for knowledge that was true by definition and for a place to live, constructing them as full-scale physical environments. To these they added whatever conveniences suited them: buildings, cities, whole civilizations—the Empire. They fled Nature and moved into a world of activities and meanings they had created themselves, which they called 'culture'. By so doing, they abandoned reality and chose to live among their own creations, deeply enfolded in their own thought."

"Wow. That's pretty wild. I still don't get their obsession with living in their creations," objected Alisha. "Monopolyworld is a creation like that and it seems awfully limited. Wouldn't they get bored after a while?"

"Remember, the Empire was obsessed with certainty. They felt they could not be mistaken about the things they had made themselves—their maps and inventions. The result is that they made a world that *resembled* the real world in outline, but with all uncertainty taken out along with the finer details."

"I see," said Alisha thoughtfully, but repressing the beginning of a yawn. "That was a very good sandwich, Señor Borges, and I have found all this very interesting. I don't mean to be rude, but I confess I often feel a little drowsy after lunch. I think I should be going now. I'm very glad to have met you and I do hope you can locate your friends."

Borges the Librarian escorted her to the great entrance door, where they exchanged goodbyes. He nodded respectfully, and perhaps a little sadly, with another little click of the heels and closed the great door gently behind her. After the somber obscurity of the museum, it seemed like a warm summer day in the streets of Monopolyworld. She sat down on the steps of the entry and then, curling up, dozed off...

"Oh, Miss Savanti, there you are. I must have nodded off. I haven't had a decent night's sleep in ages."

Hi, Alisha. Sorry to keep you waiting. I had to go up to the office right after class. But I'm free now. What's on your mind?"

Alisha had asked to meet with her teacher after school, to try to catch up in making sense of her dream life. "As a matter of fact, I was just now back in a most amazing dream I had last night. It seemed to go on for hours, but I guess I've only been here a few minutes," she said, glancing again at the clock.

"Tell me about it," prompted her teacher.

Well, I'm glad I took Spanish this year, because I just met Horhay Looeess Borhez," she carefully enunciated. "In the dream he was the head librarian of..." and she recounted in detail the whole conversation, still fresh in her memory.

"Borges actually was the head of the Argentine national library in later life," Miss Savanti informed her. "He's an enigmatic author because he so cleverly blurs the line between fact and fiction, reason and madness. His own writings are full of allusions to imaginary books and, of course, the imaginary Infinite Library, of which he was the director in your dream. This was his metaphor of conceptual space, I suppose. What we now call cyberspace is on that same blurry line: a potentially limitless conceptual space that depends on physically limited information storage. Obviously you've read his passage about the full-scale map of the realm, which points to two paradoxes, or at least peculiarities. The first, as you noted in the dream, is the obvious problem of where to put it. The other involves recursion: a complete full-scale map of the world would have to include a representation of itself, which would have to include a representation of itself in turn, and so on down the scale. What's interesting about your dream, however, is that you see beyond these aspects to deeper issues. Recursion, for example, is not really problematic, because the map or model is not a literal duplication but is always selective and idealized. It's symbolic and doesn't have to take up any real space. But for the same reason, there can be no true one-to-one correspondence between a real territory and any map, which is always a conceptual abstraction of some sort. The idea of mapping is a mathematical concept that applies to mathematical objects, like sets. But these are already idealizations, man-made products of definition, like your maps—or Monopoly. A one-to-one correspondence can exist between maps, but not between a map and physical reality. Unless, I should add, physical reality itself turns out to be nothing more than a map—or a dream!"

"Wow. I didn't quite follow all of that, but I think I get the gist of what you mean. Maps, like all concepts, are things we have defined. But reality is not. The difference is that a map is just an outline. Like a game, it only has the features that have been put into it. But reality may be unlimited in detail. We didn't make it, it's just there. We may never know all of what it contains. We have our scientific ideas about Nature, but these are like maps—limited and maybe inaccurate. Different maps or ideas can translate into each other, but no map or idea can ever fit reality perfectly. Unless, as you say, it turns out that the world is not real—whatever that could mean!"

"That's great, Alisha. I couldn't have said it better. And your dream shows something else. In the story by the real Borges, the absurdity of a one-to-one model of the world is that it can only overlay the real territory it maps. There is nowhere else to put it. This is exactly what civilization does, as the Borges in your dream points out. Of course, we imagine completely artificial environments in science fiction, and have actually begun to build one in orbit around the earth. On the ground, however, the only place to build our cities is where Nature once stood, using materials that were originally natural. Civilization is our tangible way to reduce the richness of Nature to the simplified contours of a map. The grid of civilization overlays the natural landscape, and so displaces Nature. We are steadily transforming the planet into our own cartoon version of it."

"Miss Savanti, why do you think we do all that? When you describe it that way, it reminds me of the mapmakers in the dream."

“As your Borges explained, people fear uncertainty, and our life in Nature has always been uncertain. There is one kind of knowledge that has traditionally seemed exempt from Nature’s contingencies, and that’s logical truth or necessity. An Italian fellow in the early eighteenth century, Giambattista Vico, came up with a concept he called ‘maker’s knowledge’, which is the idea that we know best the things we make; and what we know least is Nature, which we didn’t make. It can be argued that logic, as well as the laws of Nature, are human inventions, which codify real patterns or relationships that underlie them. We can never be quite sure of what we are describing, but at least we can be sure what our descriptions are. It could also be argued that any human creation can be formalized logically. Machines are a perfect example, since a machine is equivalent to a logical system, like a game. So is a map. What your dream points to is the understandable preference for such logical systems over natural systems—for the map over the territory. Because these are things we have made, we can know them intimately and be sure of them. Above all, perhaps, we can control them. So, scientists prefer tidy equations to the messiness of Nature and are tempted to believe these equations represent Nature fully as it really is. In a similar way, engineers and developers try to build an idealized man-made world as our home outside of Nature, naively assuming such a thing is possible without destroying Nature in the process. But I share the skepticism of your friendly librarian. These projects have sometimes literally blown up in our faces. We’ve taken the beast out of the jungle but not out of our hearts. Nature remains for us the unknown, which was here before us, which we did not make and can never escape, except into our minds and creations. And even our minds depend on natural materials and processes. Our brains and our computers, and all of our culture, are still part of the physical world, which will always be the context for our lives and anything people do. As your dream revealed, there is no place to put the map except in the territory.

“Well, I see it’s getting late, my friend. I hope you can get a good night’s sleep tonight. Don’t forget there’s a science test in the morning. You know, about the real physical world?”

Chapter Twelve: The Butterfly's Dream

"I just can't bear it any longer, this feeling that I'm not real! But having a body is just too big a price to pay."

Alisha laughed. "And just what sort of feeling is that?" Zed was always complaining about something or other. Such a hypochondriac! What was he on about this time? It did not surprise her that he should have a recurring issue about not being real, since he was never anything but a fictitious character invented by her own subconscious. Perhaps she felt mildly guilty about this. Nevertheless, she decided to play along with his bellyaching, since this was obviously another dream and she wanted to see where it might lead.

Not quite registering her sarcasm, he continued. "Well, I had the strangest dream last night."

"You had a dream? Well that's a switch!"

"Yes, and you were in it. In fact, somehow I became you. But that was only after I had become quite a lot of other things first. You see, I started out as, well, an angel—or at any rate a spirit. Not so different from being a hologram, really. From that exalted state I sort of *fell*, I'm embarrassed to say, into the bodies of various loathsome creatures. Frankly, it was disgusting and horrifying."

"You poor dear. As an angel, did you have big white fluffy wings?"

"Alisha, it's unkind of you not to take this seriously," he chided.

"Very tempting, though," she chortled, and then added: "All right, go ahead. I'm listening." Reproachfully casting her a look that said, *OK, do I have your attention now?* Zed continued:

"In succession I found myself to be—let's see—an amoeba, a worm, a fish, a bird, a rodent of some sort, an ape, and—to top it all off, finally—a human being. As an angel, I had no body at all, so of course there were no wings!"

"I see," she said softly, trying to smooth his ruffled would-be angel feathers and see where he was going with this. "Well, it is interesting that people have always pictured angels as birdlike creatures, don't you think? What was the difference, in your dream, between being a bird and being an angel?"

"Oh, all the difference in the world! As a bird, my attention flitted around endlessly from one thing to another. All I could think of was where the next mouthful would come from, if you can call that thinking. I was constantly afraid something was going to pounce on me and tear me apart, so I was ceaselessly on the alert and darting about. Having eyes on the sides of my head made it easier to see all around, but also gave me a disoriented feeling. I suppose a real bird would be used to it, but I had just come from a very different state. With no body to feed and protect, there was no hunger and nothing to be afraid of. As an angel I could never be in pain and there was nothing I needed. Everything was stillness itself, because there was no reason to move or get excited, and no body to swing into action. I could look on whatever was happening with complete equanimity and only the mildest interest. In fact I could look at it no other way. I was literally above it all, or beyond. I suppose the image people have of angels is ironic, because being a bird seemed the very opposite, except for the aerial view. I guess there's a reason for the expression 'bird-brained'!"

“Sounds like you’ve changed your tune about not having a body, old chum. You used to complain about it so. It seems like you sort of worked your way up the evolutionary ladder, body-wise. Wasn’t that your dream come true, to have some meat on your bones?”

“All right, I admit I sometimes did get carried away. Perhaps this dream did help settle something for me. The truth is, now I feel more sorry for you than for myself. I can see now it’s no picnic being real.”

Alisha smiled at him. Now, at least she could feel guiltless about his disembodied state. Now she could listen to his dream with the same impartial attentiveness with which Miss Savanti listened to hers. “What was it like to be an amoeba?” she asked with genuine interest.

“I can’t say that being an amoeba was like much at all, or that it was any kind of experience at all. It’s more like I just somehow know that I spent eons as an amoeba and that there wasn’t much to it from an angel point of view.”

“Okay, then, how about a rat?” she suggested.

“I suppose it was a rat I was, or perhaps a mouse. I had no *concept* of what I was, you see—or any other sort of concept. I couldn’t see terribly well, but the whole world sure was one big overwhelming smell! Aside from food, all I could think about was, uh, well, the scents of female rats. I’m afraid I met a horrifying end. I had a funny feeling about that cheese, but it smelled perfectly delicious and then WHAM! my neck was crushed and I flailed about in the worst agony you can imagine, until I passed out from exhaustion.”

“That’s terrible,” Alisha shuddered. “I don’t think I would care to be a rodent and, from what you said, I wouldn’t even notice being an amoeba. But what about being a monkey?”

“A young female chimpanzee, actually. That was quite a different story. Rather close to being a human, I’d say—not that I recommend either in the final analysis. What struck me most is how tuned to one another we were—about a dozen of us in all. This had its good and its bad points. I suppose I mean from a human perspective, since an angel couldn’t have cared less! We shared food and it was comforting to feel that the others kept a watchful eye out for dangers, taking some of the edge off terror for each of us. In some ways, we had it made, a cushy life, but there were threats and sometimes these came from other groups like ours. We did take care of each other, which strengthened our group, but there was a strict pecking order and you had to watch out for certain individuals, not to cross them or get in their way. You could improve your position in the group through a certain amount of conniving and by kissing ass—and I do mean literally. Like people, we were clever enough to lie and cheat. On the other hand, we loved to play, especially the youngsters. Moreover, we were, uh, I should say entirely obsessed with sex. But unlike humans, this was limited to certain times for each female. And when my time came, all hell broke loose. My nether parts would swell up and, well, I confess I went about in the most provocative ways advertising my readiness to all indiscriminately, and the males simply jumped on me one after another.”

“I see,” Alisha blushed, a little taken aback. “That doesn’t sound very romantic. I guess you chimps don’t have marriage, or dating, or whatever.”

“Hey, it was only a dream, remember? But as a matter of fact, male and female chimps are about the same size, so it wasn’t as intimidating as you might imagine. Male

gorillas, on the other hand, are much bigger than females. A strong male gorilla will jealously lord it over a number of females he keeps for himself, fighting off all competitors and keeping his harem in line. He doesn't make a very good stepfather and may kill any offspring he suspects are not his own. Does that sound more romantic?"

"No," she said softly, realizing he probably felt defensive. "I'm glad I'm not any kind of ape. Or any other creature either. It doesn't seem like much fun or even very interesting to be most animals."

"There is something I haven't mentioned yet," he continued. Before I became you in the dream, I dropped into the bodies of a few other humans too. First, I was an Australian aborigine, about twenty thousand years ago. Then I was a slave girl in ancient Babylonia. Finally, I was a seventeen year old Russian soldier who died in a German prisoner of war camp in 1944. I can tell you that wasn't so much fun! But actual experiences, however awful, were not the worst of it. The worst is something I can hardly put my finger on. Something about the whole business of having fingers at all!"

"What do you mean, Zed?" she asked. "What could be wrong with having fingers?"

"You are quite right that the life of animals is unenviable," he continued. "Mostly I found it painful, horrifying, and depressing to have any sort of body at all. If you aren't being eaten alive, by predator or disease, then you are killing some other creature to feed yourself. It's a disgraceful existence, brutal and messy from an angel's point of view—or that of a hologram, I must admit. You have no free will, and nothing much but sleep to fill any free time. Love and romance and family life are not part of free time but part of survival, driven by instinct. The young may have play time, but it usually serves to train for adult survival. At the end of it all, one way or another, whatever body you have *dies*. Nature has no room for immortal creatures. Bodies are designed to live long enough to reproduce, since otherwise the system wouldn't continue. But anything more is gravy."

"What I've been learning is that the lot of a human body is not much different. You live a little longer than most animals, if lucky. Even though you've eliminated the great beasts who used to tear you limb from limb, you are still prey to disease and decay, in constant struggle against attack from within by tiny predators. The very moment your body relaxes its grip on life, it becomes food for flies and maggots. You are still driven by instincts, which lead to overpopulation on the one hand, and to wars that reduce it, on the other. Both bring starvation, misery, destruction and despair. You've created your own environments to get away from nature 'red in tooth and claw', but you carry that nature within you. In spite of all the best intentions, you remain more beast than angel. But the worst of it is: while you have a limiting mortal body, you have unlimited imagination."

"OK, so you've discovered you don't like pain. But go on," she prompted. "This reminds me of something Miss Savanti said, though I still don't get your drift about imagination."

"Look. Remember Monopolyworld? The troubling thing about being human is that your consciousness cannot be contained in any game. You are a player outside the game, right, not just a playing piece within it? That's the difference between a self-conscious creature and one that is not. You don't completely fit within any particular game, including the hand-me-down games provided by your physical nature. The whole universe is your playing field, but it's still too small. Your body is part of that universe,

but your consciousness does not coincide with your body. You have a loose and shifting relationship with an organism that demands and shapes your attention in many ways, but not totally. Nature provides you with a ready-made game, but you take no comfort in this. On the contrary, you only want to break out of the game and make the rules yourselves. You can take refuge in a faith of some sort—some other game of your own design—but a part of you will always doubt.”

“I’m afraid this is not getting any clearer, Zed. You’re rambling. Come back to the human finger. What did you mean by that?”

“OK. The human hand is like the human consciousness. In fact, a huge amount of your brain is dedicated to the hand. You make things with that hand, you transform your whole environment. It’s both the instrument and the symbol of your whole relationship with the world. And it can point—both to things in the world and to things in your own imagination and experience. Your finger can point away from you, toward elements of the game, but it can also point beyond the game, reminding you that you are a player who is not properly an element of any game. What are you, then? You humans have made up the idea of ‘spirit’ as another *thing* to point to, as an element of some larger game. Forgive the expression, but this misses the point! Everything you can know about refers to some game or other, with structure and rules. That’s what knowledge can be for a physical creature, even a self-conscious one. But add to this the fact that you always *know* this, because you are a player who stands outside the game, and then you have the basis for deep suffering—not to mention the dizziness of knowing that you know that you know.... It is the anxiety of knowing that you can never know anything with absolute certainty. You always suspect in your bones that anything you believe might be mere imagination, a game you’ve made up or decided to play, no more than recreation on a rainy afternoon. I discovered that you humans have no place where you really belong, no natural home, no real place to stand. I’m convinced that’s why you’ve taken over your planet. Your species realized there is no home for you but one you make yourselves. So much for my envy about being real.”

There was a long period of silence while Alisha digested this sermon. It brought to mind Señor Borges and the projects of his ancestors. “Tell me about the slave girl,” she said quietly.

“Ah yes. As it turned out, her name was rather like yours, and she too was fifteen years old. But her circumstances were quite different. Women in that time and place mostly had a hard lot. Every female was the property of some man—either her father, or her husband, or her brother, or some other master if she was a slave. There was one more possibility: she could be a prostitute, but that was little different than being a slave. In fact, many female slaves were sold or rented for prostitution. Wives were encouraged to wear veils, much like wedding rings are used today. So, it was a crime for a prostitute to wear the veil—to pretend, in other words, that she was a legitimate wife, under the protection of some particular man. Without that protection, she was fair game for all men—communal property, so to speak. The lot of children was not much better. A father could do what he liked with his property, which included his children. Under Babylonian law, a man could sell his whole family into slavery in order to pay off a debt.

“This girl, however, was from a conquered tribe, acquired in battle, a spoil of war. Her master was a high-ranking soldier. The men under his command had killed her father and nearly everyone in their village. The bodies were left to rot in the sun, in piles

swarming with flies. She and her mother and a few other attractive or able-bodied women and their children were spared to become domestic servants. The goods and animals of the raided town were hauled off as well.

“Like you, at fifteen she was a strong, nice looking young woman. But several of her many siblings had died in birth or before or after. Some had been deliberately allowed to perish simply because they were not male. Her older brothers were killed fighting along side their father. The girl survived because she was healthy and pretty.

“I’ve come to the conclusion that the experience of becoming ‘civilized’ has not been a pleasant one for most humans who have ever walked the earth. When not ravaged by wars, your kind have suffered terribly from droughts and starvation, epidemics and earthquakes. The great majority of people throughout history, if they were not literal slaves, have been serfs of one kind or another, working to enrich overlords few in number but powerful and ruthless. The more organized people have become, the better the few have been able to dominate the many. And I can’t help thinking this ‘progress’ is all in vain, all to flee an inescapable anxiety that is built into your double identity. On the one had you are driven by your genes—by Nature’s game. On the other, you are driven to try to transcend your genes with civilizing ways. But underlying all that, you are driven by an incurable uncertainty about what is really going on here in ‘existence’.”

“Well, Zed, I confess that all this is a bit overwhelming and just makes me tired. I’d like to know more, but I guess I’d rather hear, finally, what you found it’s like to be *me*—according to you, of course.” The words came with increasing difficulty. She had to find each one from deep inside and pull it into the open with effort to hold the thought together. “Isn’t that what all this leads up to? What is it like for a fictitious... older male—an *angel*, if you say so—to dream of himself as a fifteen year old girl, who invented him in her own weird nightmares? I suppose that, right now, what it is like to be me must seem pretty confused. But that’s it, isn’t it—the point of this dream? What I’m supposed to ask you and what you’re supposed to tell me before...” But already the question was slipping away and Zed had gone.

Certainly she had a great deal to discuss with Miss Savanti, and the sooner the better. The dreams had taken a whole new tack. They weren’t even her dreams anymore. There was a different tone now, of sadness and disappointment. That afternoon, she recounted the whole story to her mentor.

“Okay,” Miss Savanti commenced with her usual calm detachment. “Let’s go back to the beginning and look at the structure of the whole dream. As you noted, it’s a progression through evolutionary time. What I find most interesting, philosophically, is the beginning point—which is altogether *outside* time. You must have been doing some pretty wide reading lately, because in this dream you imagine the subjective experience of various creatures. Then you move on to try out the experience of people through history, and end up with a thought experiment about your own experience: what it would be like to be you from someone else’s perspective—a someone, furthermore, who happens to be a part of your imagination. The phases of the dream all have to do with having a body, approached from a disembodied point of view. The angel has no body and no location in time. The dream seems to be less about particular experiences than about what it means to have a body and live in the physical world. What strikes me is

that, even while dreaming, you are forced to take a certain position, one that mankind has always had to take in regard to such questions.”

Alisha looked puzzled. “What position is that?”

“Well, who do you know who doesn’t have a body? It seems that the particular body and brain we have shape our ‘movie’, as we’ve been calling it. But the only way to really get a handle on how it is shaped in each case is by trying to imagine what it would be like to have no body at all, to start from zero, so to speak.”

“I guess I see what you mean. We have to have some outside point of reference. But even then we can still only imagine what it is like to be other creatures or even other people. We can’t really know. So how does it help to imagine being nobody at all?”

“A good question, Alisha. Okay, here’s what I’m getting at: as soon as people grasped the concept of experience, they must have felt compelled to try to understand the experience of others, which certainly would have helped them to get along. In any case, they were led to the idea of subjectivity—that there might be an inner world behind each person’s eyes, and that each person or creature might see the outer world differently. And that must have been a very confusing thought, in a way, because then what is the world *really* like? Whose perception is right? Every point of view is tied to a body. That body’s point of view is from a particular place in time and space, and depends on a particular biology and life history. This must have led people to think that an objective point of view would be a disembodied one, and outside of time. A view from no-where and no-when, and by no-body in particular.”

“But that’s impossible, right? Unless you do believe in spirits and angels—or God.” Alisha fell thoughtfully silent and her teacher regarded her affectionately a moment before answering.

“I’m sure that the longing for a point of view ‘above it all’ is a very human motivation for belief in God. But certainly not the only one. I won’t presume to know whether God exists—that’s a whole other question. But I will say that people have every reason to hope so. For one thing, we are creatures who grew up in families, with parents who cared for us, provided for us, protected us. It would be very natural for such creatures to hope for an invisible super-parent to continue looking after them even as adults. But there are other reasons for believing in life beyond the body’s life. People find it hard to come to terms with death. Or disease and pain. Because we have also experienced ease and tranquility, and life that goes on and on, day after day and generation after generation. We can imagine and wish for these as permanent states, as permanent happiness, an escape from suffering. Most important of all, we cannot really imagine ourselves coming to an end. Even if we picture the death of our own familiar body, already that picture is part of a continuing awareness. We can grasp the material body passing away, but not our very consciousness. It is easy to jump from there to the idea that the real self is nonmaterial and eternal. You could say that the soul immortalizes the human personality, and the idea of God idealizes it. You could also say that people are strongly motivated to deny mortality and their whole dependence on the frail body.”

“But do animals worry about death, or think they will live in an afterlife, or be reborn in some other form? Do they see themselves as separate from their bodies?”

“First tell me what you think, Alisha.” This was Miss Savanti’s standard tactic in philosophical discussions. Alisha collected her thoughts and then replied.

“Well, no, I guess not. We can’t be really certain of any experience but our own. But judging by how they act, most creatures don’t seem to have a concept of themselves at all. Maybe chimpanzees do, and maybe whales and dolphins and elephants. Sometimes I think our dog does—but probably not the cat! Maybe the main question is whether creatures are aware of time and how their lives inevitably will come to an end—if they aren’t killed or eaten by something else first.”

“That’s very well put.” Miss Savanti paused to see if Alisha would continue, before resuming. “Another aspect of this problem is language. Probably what we call thinking depends on using language the way that people do—not just as communication with others but also with ourselves. It seems that the ability to think abstractly may depend on language or be modeled on it. Animals communicate with signals of various sorts—cries and growls and so forth—but probably not symbols as humans do. Words are symbols of concepts, and concepts may be combined in imagination the way that words can be combined in sentences. A statement does not have to be true or even sensible. Remember that Jabberwocky poem? All those are perfectly good sentences, even though they are complete nonsense. And I don’t think it is any coincidence that we both can invent things to say and also invent things to build. Both are structures that come from imagination and both feed imagination in turn. In other words, I’m not convinced a creature can grasp something as abstract as mortality or eternity without having the structured sort of language that humans have. After all, built-in mortality is not so obvious, even as an outcome of aging. We still don’t fully understand it scientifically, and it took a long time even to stumble on the idea. In ancient times, people were used to dying from disease, mishap, starvation, or by being killed by a beast or another human being, long before they could die of ‘old age’. They were used to seeing death *caused* and often thought that if someone died it could only be because someone or something had killed them deliberately. When there was no apparent cause, it was easier to believe in magic than in a built-in end. And easier to believe that the end of the body is not a final end of consciousness. Most religions hold that our consciousness or soul will either be reincarnated in a new body or else continue after death in a disembodied state. It is interesting that the religions most concerned with a life separate from the body are also most obsessed with mortality. The body becomes a temporary prison, the enemy, while real life only starts after death! It seems that the hardest thing for people to stomach is the absolute end of their existence.” Miss Savanti paused, but Alisha said nothing, and after a moment her teacher resumed:

“Well, it’s getting late. I guess we should call it a day. There is one more thing I should mention, though, just to be fair. I don’t myself believe in a God or the soul or that our consciousness can exist without the brain and body. But those are my beliefs, and they reflect an attitude that is generally called Materialism, in the philosophical sense, which is the belief that what is real is matter and physical events and processes. The opposite view is called Idealism—the belief that what is real is mind or thought or ideas or ‘spirit’. Logically, it could just as well be the case that we are spiritual or mental beings who made up the sense of living in a material world to help explain this rather bizarre hallucination called life! There is even a lot of evidence for the spiritual view—out of body experiences, near-death experiences, telepathy, precognition, that sort of thing. There is no way to absolutely prove one view or the other, because there is no higher ground to stand on than these two perspectives offer. I think this is what your Zed

friend was getting at when he talked about the inescapable uncertainty at the root of human suffering. Your dream reminds me of an ancient one reported by a Chinese philosopher, a dream so convincing that he woke up wondering whether he was a man dreaming that he was a butterfly or whether he was really a butterfly dreaming he was a man. I think his point was that you can't really know for sure. And so some people will be convinced one way and some the other, and some that it makes no difference at all."

Chapter Thirteen: The End

The end was like the beginning. It had been exactly one year since Alisha turned fifteen, and it had been the most unusual and serious year of her life. It had all started with a fortune cookie. Her nights had been filled with strange dream explorations and an odd character named Zed. Her days had been challenging too. That was the year of her mind's awakening, with long hours of eager study and intense chats with her favorite teacher, which were either the cause or the effect of her fantastic adventures—it now hardly seemed to matter which. But, of course, they were both! Fondly, she remembered Zed's *thing* about "either/or".

And Zed? Well, she'd seen nothing of him for quite a while. He seemed to have disappeared back into whatever compartment of her seething imagination he'd come from—or else graduated to some world of his own. If the genie was back in the bottle, maybe it was because he'd taken up dreaming himself and couldn't any longer be bothered to haunt her dreams. Or perhaps he'd outgrown his envy of mortal creatures. Or maybe it was just because her own imagination had settled down some. No longer concerned about losing her mind, she wondered more at the madness of other people's so-called sanity. At the accepted craziness of a world where many people starved because a few had too much, and where people seldom thought about their own inevitable end. Just then, as she lay in bed in the dark with her eyes closed, after a full and fun day on which it was her sixteenth birthday in the world, a familiar tune drifted into her head. "Row, row, row your boat, gently down the stream. Merrily, merrily, merrily, merrily, life is but a dream..." And down that river she pleasantly drifted.

She dreamt of herself lying there in her room, cozy under the covers, while through her closed eyelids she could see the red light blinking. *Exit*, it flashed. Without even opening her eyes, she looked around the room for Zed. Nothing. This was the first Zed dream she'd had in weeks, but no Zed. There was only one thing to do. Without hesitation, and without, in fact, even moving a muscle, she rose from the bed toward the red light and gave it a firm push.

Nothing happened, except the red light disappeared. She noticed a subtle difference though. The room seemed darker, stiller, if that was possible. In fact, absolutely dark and absolutely still. With a start, she opened her eyes—or thought she did—but couldn't feel them opening or see anything at all. Realizing she was still lying down, once again she rose—or thought she did. But she hadn't felt her hands grasp the covers to throw them aside nor the pressure of her body against the bed. She reached down and thought her hands passed right through where the bed should be, and could not feel her palms touching each other when she put them together—or thought she did. The silence was absolute. She could not hear or feel her own blood pulsing. Nor smell or taste anything, or feel herself breathing. *I can't see, I can't hear, I can't feel anything at all*, she thought, but without panic. Could I be... dead, then? *No*, she answered her own question: I'm still thinking. *Good old Descartes!* she mused. Then, after a moment more of pondering the novelty of the situation, *But what if life really is a dream? Am I a live Materialist dreaming she is dead, or an Idealist who dreamt of being alive and now the dream has simply moved on?* Just then the lights went on and there was Zed sitting at the foot of the bed, smiling broadly.

“What are you grinning about?” she frowned, trying to adjust her eyes to the light.

“Well, for one thing I’m pleased to see you’re still with us. I thought you were a goner there for a moment. So, tell me, what’s it like to have no body—according to *you*.” He was obviously pleased to put the shoe on the other foot, so to speak.

“You should know,” Alisha retorted, glad for this familiar exchange of wit. “You know everything I know even before I do! And anyway, I thought *you* were the goner. Where have you been? Well, never mind—I can imagine. But why have you come back now?”

“Oh, just to say goodbye, really. To wrap things up. Tie up loose ends. Close the deal? Nail the coffin? To make sure bygones are really gone? To...”

“Okay, I get it. Thanks for dropping by. This isn’t maybe the best time, though. After all, I was right in the middle of being dead, or whatever.”

“Shall I come back later, then? Just kidding.”

“Me too, I was just kidding. I really am glad to see you. As glad as a person can be while dreaming they have no body! I haven’t figured out this Idealism and Materialism thing yet. What would you say about it, now that you’ve had a taste of both?”

“What can I say? I don’t even exist. I’m your creation. I can only think whatever you want me to think. I’m the one who has no body, and no mind of his own either. Let me tell you, it’s a rotten deal being a program, and one who’s only a figment at that.”

“Okay, Zed, I didn’t mean to get you started,” she interrupted. “I was just wondering if some remote corner of my mind might condescend to shed some light on this question that the rest of me hasn’t thought of yet.”

“Since you put it that way, I can’t really see the sense of dwelling on *nothing*.” Alisha rolled her eyes at this, but he continued: “I mean, when you die, either that’s the end of your experience or it’s not. And if it’s not, then you will continue to experience *something*, and it won’t be just you alone in a pitch-black void talking to yourself forever, will it? On the other hand, I think that may just be my old envy speaking. It’s me, you know, who has to return to the silent void and suffer his own boring company for all eternity, just because you don’t need me any more. There’s nothing ideal about that—and certainly nothing material! You humans are always trying to get out of your bodies, while I—deluded as I may be—only ever wished I had one to get into! You’re all terribly materialistic, though, always wanting more, more, more of things, things, things. Even wanting newer and better bodies. And at the same time, you’re deeply threatened by anything you haven’t invented yourselves. That’s your Idealism for you! But have you ever thought what it could be like to *be* one of your creations? Especially one that will never be more than an idea, a passing thought? We deserve better treatment, you know, some respect. After all, we are the dreams that stuff is made of. It’s fine for you people to make robots and all to keep you company or whatever. Maybe one day they will be able to think and feel and be real—all because they too have bodies. Better steel and plastic and wires and computer chips than nothing at all! Or so you let me believe all this time. But what about us poor A’s through Z’s who are the mere thoughts behind inventions, not even words yet, just the flimsy imaginary pets you let out of your unconscious to stretch their legs, at your whim, during a pleasant sleep?”

“Please, Zed, I’ll never get a pleasant sleep like this. Maybe it is a little unfair that I can take your suggestions seriously but not your whining. But please, can we come to the point?”

“Your point, you mean?” he said with mock petulance. “Well, at least you do listen to me. Lord knows no one else does. Come to think of it, no one else can! Is that fair? I don’t even *know* anyone else! Alright,” he said after a moment. “I’ll pull myself together. After all, this is our farewell. Our grand finale. The end of the line. The last of the Mohicans. The...”

“Zed! Enough!”

“Okay,” he squeaked in a tiny voice. He seemed to be shrinking and becoming more transparent, and she thought she saw a glimmer of tears in his eyes.

“Are you really sad, Zed? I’ll miss you too, you know.” She reached out to give him a hug but her arms passed right through his shimmering form of light. They both laughed. “One of us, at the very least, is not real,” she said, and they laughed again.

The End (really)